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ABSTRACT

In this study an attempt is made to go beyond traditional enrollment accounting. By use of a student questionnaire on the design of individual classes combined with course enrollment data, tentative individual class size standards have been established. The results of this survey are presented in appendix 1, which contains tables covering 1973-74 changes in departmental enrollments and in enrollment of faculty, departmental credit enrollment, fall enrollments by departments, distribution of class size standards, and load adjustments classified by departments. Appendix 2 contains standard enrollments classified by departments. Appendix 3 presents percent of standard enrollment achieved classified by department and schedule offerings. Appendix 4 contains reports on minigrants for course redesign. The sample questionnaire on course design is included in appendix 5. (Author/PG)

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DEPARTMENTAL ENROLLMENT ACCOUNTING AND CLASS SIZE STANDARDS RELATIVE TO COURSE DESIGN AT KNOX COLLEGE

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As a general rule, enrollment accounting at liberal arts colleges, if existent at all, has focused upon the analysis of credit enrollment registered in the various academic departments. Most often the data accumulated is a simple count of departmental enrollment by course with a summary total for each department. More elaborate analyses may include classifications of the data by sex, class level, and student level integrated with data on instructional outlay. In this way it is possible to arrive at reasonably precise figures on the various types of instructional costs. Whether simple or elaborate all such analyses treat all units of credit as the same value earned.

At Knox College data on enrollment are reduced to standard faculty units of 144, this figure being the average student credit enrollment per faculty over a three year base period, 1968-69 through 1970-71. This allows us to express the given year enrollment credit of a department's faculty in standard units which can be compared with the number of faculty in the department that year. From these figures we get a first estimate as to which departments are overstaffed or understaffed relative to enrollment demand. Such comparisons as are arrived at in this manner are basic since, the total enrollment being given, that enrollment which is not carried by one department must be carried by another.

The problem with limiting the analysis to comparisons based on standard units, however, is that some courses are inherently more expensive per unit of credit to teach than others. A course which demands an almost daily in-class response from individual students, for example, is more expensive to teach than a large lecture course. A course which counts as one of its objectives the development of student expression and communication is more costly than one which

is primarily concerned with students' absorption of cognitive material. This much is commonplace. But it is facts such as these which allow individual departments and academic deans to place such interpretations on basic data as suits their own understandings, biases, and ends. In these circumstances basic data may remain a fringe consideration with decisions being made on the basis of personal wisdom and power. If at the worst extreme this means that power decides, that data are not merely ignored but lied out of, the fault lies in the limitations of the data; in the treatment of all credit as being equal units.

In this study an attempt is made to go beyond traditional enrollment accounting. Two years ago our Committee on Curriculum approved a questionnaire on course design which was sent to faculty and students in all classes offered at Knox in 1973-74 (Appendix V). The student questionnaire was sent to two "high Profile" students in each class. The responses to these instruments were coded for data processing and a print-out obtained of faculty responses and of student responses.[*] The completed student questionnaires were turned over to individual faculty in order that they might see how students viewed their courses.

The responses obtained provided us with extensive information on the design of individual classes.[1] We now know which courses are basically lecture courses, something of the extent of give and take between professor and student that exists in these courses, which courses lean towards discussion or the development of student expression; we know how many exams, papers or projects are demanded in the various courses; we know their library requirements, their class time demanded, their laboratory experience, etc.[2]

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[1] Faculty and student cooperation with this effort was very good. Responses were obtained for most of the classes offered in 1973-74. We are missing data on a number of courses, most of which were not offered last year.

[*] There was a remarkable agreement between faculty and student responses to these questionnaires. Students, however, tended consistently to see the optimum class size as being smaller than did the faculty.

These data have been combined with the information on course enrollment for individual classes over the past three years and tentative individual class size standards have been established.[3] There are three basic types of standards: (1) Standards for classes designed to be a certain size, whether large, medium, or small; (2) standards for classes faced with limited enrollment relative to the capacity of the class; and (3) standards for those classes which must handle the residue of enrollment demand which remains. The standard for the third category is thus computed each term as total credit enrollment, less the enrollment in categories one and two, divided by the number of classes in category three. The higher the number of classes designed to be large and the greater the percent of standard enrollment achieved in these courses, the smaller will be the computed standard of courses in category three. Conversely, the more classes designed to be small, the more classes in category two, and the lower the percent of standard achieved in groups one and two, the larger will be the computed standard in category three. For the three terms last year, the average computed standard was twenty-seven, which is the figure used as the computed standard in this report.

The standards tentatively assigned to the individual courses at Knox are listed in Appendix II, together with the data that are most relevant in the assignment of standards. The percents of standard enrollment achieved for the courses taught in 1973-74 are presented in Appendix III. In both groups of these reference tables the data are classified by department.

[3] Where questionnaire responses were unavailable in certain courses a standard was estimated from past enrollments, catalogue information, and advice of department chairman. It should be recognized that these standards may be revised upon review of the Curriculum Committee. Let it be said that the standards used in this report are conservative, being consistently lower than the optimum size seen by the faculty and closer to the optimum suggested by students.

The purpose of working with course enrollment standards that are based on course design and the purpose of deriving percents of standard enrollment achieved is to amend traditional enrollment accounting in such wise as to give us a more precise concept of efficiency in the handling of student numbers. Using traditional accounting, it is easy to think of a small class as being "inefficient" because it is relatively more costly. The truth is, however, that the teaching-learning that is accomplished in some small classes cannot be accomplished in any other way. We consider this experience as being worth its cost. What we need is a standard for such classes that will make it clear that they are supposed to be small; that the interpersonal relationships being developed in these courses require smallness. A class whose standard size is twelve enrollment credits will be identified in our approach as being 100% of standard if twelve students enroll for 1.0 credits each. This distinguishes such classes from those which simply did not get many students; from classes of standard twenty-four or more which get no more than twelve students.

On the other hand, the use of standards in enrollment accounting permits the quick identification of overloaded classes. The class which is designed to accommodate sixty students will achieve 100% of standard if sixty students enroll. Classes which are not designed to handle this number of students, but which are simply allowed to grow large, will be readily identified as being overloaded. The concept of efficiency, therefore, is rather strictly related to what enrollment <u>is</u> in a course in contrast to <u>what it ought to be</u>. Large classes are not necessarily efficient anymore than small classes are necessarily inefficient.

Once efficiency is recognized as essentially a relationship between production and a productive standard, the identification of inefficiency expresses

the need for productive change. A class which is overloaded with students frequently experiences a deterioration in the evaluation of students by the instructor. It is remarkable how often one finds the grades of students in overloaded classes drifting upwards. This makes students less unhappy with the class conditions and tends to perpetuate what is at best a dismal educational situation. Such classes should either be broken up into smaller sections, the additional instructional expense being compensated for by the elimination of inefficient small classes, or the teacher should be given funding for the design of a course which can accommodate effectively the larger number of students. Moreover, teachers in some inefficient small classes may be encouraged to revise their offerings towards broader objectives.

An examination of departmental enrollments in terms of productive efficiency should lead to a considerable amount of course redesign. Recognizing this, the Knox administration has made available $25,000 over the past two years to support twelve projects in course design (Appendix IV). There is no doubt that these funds have improved teaching efficiency at Knox College. As this report will make clear, however, much remains to be done.

In what follows we will first examine the basic enrollment data for Knox during the recent past. Secondly, we will see how this analysis may be modified by a consideration of class size standards.

Enrollment by Departments, 1973-74; Fall, 1974-75

Summary Tables I-IV (Appendix I) present the basic data on enrollments for last year and for the fall term this year. Table II shows enrollments by departments and by departmental faculty.[4] Enrolments of departmental faculty in

[4] Two enrollment totals are achieved through data processing. The first total pertains to all enrollments within a given department, whether all the courses are taught by that department's faculty or not. The second total pertains to all enrollments carried by a department's faculty both in and outside the listed courses of the department. The second total is usually higher since it includes enrollments in the Freshmen Seminar, Group Interest, etc.

1973-74 continued to decline reflecting the reduced student body. Table I shows that during this period enrollments fell by 1231 credits or 8.5 standard units.[5] Excluding Military Science and Physical Education, and allowing for faculty on leave, the teaching faculty fell by 6.9 units in 1973-74. This means that enrollment credit fell by 1.6 standard units more than the size of the faculty fell.[6]

Table IV shows that enrollment will continue to decline in 1974-75. Fall credit enrollment was down by 122.5 units. Extrapolating this for the full year, this decline expressed in standard units will be about 2½. Furthermore, the net return of a number of faculty to full-time teaching this year has increased the number of faculty teaching units by 5½. For the past two years, therefore, enrollments measured in standard units have declined by eleven, while the faculty has declined less than one and one-half units. This means that, looking only at the raw data, we are overstaffed by about 9.5 units of faculty relative to two years ago. This is a continuation of a trend we have experienced since the college going rate in Illinois started a dramatic decline five years ago.

Looking ahead, my expectation is that enrollments at Knox College will be down once again in 1975-76. We may be able to get more new students next year than we did this year, thus effecting an important turn-a-round, but I doubt it this increased number, it it materializes, will be large enough to offset the decline in the number of returning students. When enrollments decline

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[5] These figured do not count credit for courses started but dropped with the grade of "WX"; they reflect only fully attempted credit.

[6] At least two faculty units were supported by outside funding, however.

in successive years a downward multiplier develops which is very difficult to offset. Furthermore, freshman attrition was down last year, and this will almost surely mean that sophomore attrition will be up this year. Typically our two year attrition rates have not fluctuated by as much as our one year rates. Some of the increased percentage of freshmen we keep in a given year may indeed go on to graduation, but some of them will drop out after the sophomore year.

Looking only at the unmodified enrollment data on faculty size, it is clear that our per unit cost of instruction is rising, independently of increased average faculty salaries, and that the end of this trend is not yet in sight. Table III (Appendix I) shows the high per unit cost departments to be Music, Modern Languages, the Natural and Biological Sciences, and Mathematics.

Table i, on the following page, shows the breakdown of course offerings by department for 1973-74. The standard course load for the Knox faculty is seven course units plus independent and advanced study. The actual load varies considerably between departments since some faculty consider a certain amount of independent or advanced study as having a course equivalent. Table i assumes that ten independent study credits or six advanced study credits are equal in faculty effort to one course offering. Seven course offerings plus one-half course equivalent in independent or advanced studies (five IS credits or three AS credits per year) are assumed in Table i to be the normal load.

If one counts the courses actually scheduled, including unscheduled courses meeting TBA with a few students as independent study, and if one includes the scheduling of Applied Music courses (six half credits equal one course), the Knox faculty averages 7.13 courses per year. Even when this is adjusted to

Table 1: Total Class Units Scheduled, Independent and Advanced Study Credits in Course Load Units*, Adjustments for Deviation from Enrollment Standards**, Classified by Department of Faculty Origin, 1973-74

Department	Scheduled Class Units	IS and AS Course Load Equivalents	Course Load Adjustments	Total Units ÷ 7.5 (a)	Number Faculty (b)	Difference (a - b)
Art	28	6.0	-1.8	4.3	2.7	1.6
Biology	25	2.6	0	3.7	5.7	-2.0
Chemistry	28.5	2.0	-2.6	3.7	5.0	-1.3
Econ and Bus Ad	26	3.6	0.8	4.1	4.4	-0.3
Education	32	1.9	-5.1	3.8	3.5	0.3
English	45.5	2.1	1.0	6.5	6.1	0.4
Geology	10	1.5	0.4	1.6	2.0	-0.4
Hist and Am Stud	42***	2.6	2.6	6.3	5.0	1.3
Math and CS	44	1.5	-3.5	5.6	6.9	-1.3
Modern Languages	63	2.2	-0.7	8.6	8.0	0.6
Music and Human	47.4#	0.6	0	6.4	5.5	0.9
Phil and Relig	20	1.7	0.1	2.9	3.0	-0.1
Physics	19.5&	1.1	0.3	2.8	3.1	-0.3
Pol Science	34	4.0	3.0	5.5	4.3	1.2
Psych-Human Dev	27.5	2.0	1.9	4.2	3.3	0.9
Soc-Anth	27.5	2.7	-2.2	3.7	4.1	-0.4
Thea and Comm	26	1.9	-2.1	3.4	4.0	-0.6
Totals	545.9	40.0	-7.9	77.1	76.6	0.5

Source: Registrar's Class Schedules, 1973-74, Computer Center Print-out of Enrollment Load of Departments' Faculty, and Office of Institutional Research Reference Tables on Class Size Standards.

* Includes as independent study credit unscheduled classes meeting TBA with a few students. Ten IS credits = one class unit. Six AS credits = one class unit.

** Load adjustments are calculated on the basis of the per cent of standard data shown in the reference tables. These adjustments are restricted to courses at least thirty per cent over standard or at least sixty per cent under standard which have been repeated in the last two years.

*** Does not include one course in Hist 105 taught by MJH, who is not counted as a member of the department.

\# Includes seventy Applied Music credits. Six applied music students meeting twice a week for three credits = one class unit.

& Does not include one Biology course and a one-half credit Group Interest course taught by RR, who was listed as "On Leave."

account for the extreme cases of overloads and underloads cited in Table VII (Appendix I) the average scheduled course offering per year is seven. Independent and advanced study credit does average about one-half unit. The average course load at Knox is almost exactly seven and one-half units including independent and advanced studies.[7]

Note that in reaching the conclusion that the average faculty course load at Knox is seven and one-half units, including IS-AS, we have (A) limited the course adjustments to the very extreme situations and (B) averaged the adjustments for classes with low enrollment demand with the adjustments for overloaded classes. Because the standards have not been validated, adjustments were made only for those classes operating at forty percent efficiency or less and for those classes with one hundred thirty percent or more of standard enrollment. As Table V (Appendix I) indicates, 16.9% of our classes operate at forty percent efficiency or less. If adjustments had been used for classes with eighty percent of standard or less, 51.6% of the classes offered last year would have been cited. On the other hand, it is one thing to average courses which are designed to be small with those designed to be large. It is economic to use a few large classes to pay for the higher unit costs of many small classes. But it is quite another thing to average overloaded classes with smaller classes which simply did not get much demand relative to their design. From a quality control standpoint, the former are as inefficient as the latter, the errors being cumulative rather than offsetting.

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[7] It is unrealistic to think that the average Knox faculty member carries over eight courses plus independent study. To get such a figure one has to count every TBA situation involving as much as one-half credit for one student, excepting those courses listed as 350 or 400 (IS-AS courses), as equal to a regularly scheduled class.

Given these limitations it is enlightening, however, to compare the standard enrollment units minus faculty column for 1973-74 in Table III with the right-most column in Table i. The first schedule shows the relative overload or underload of student credit handled by the different departments. The second schedule relates to overloads and underloads in terms of adjusted class offerings. Table ii makes this comparison.

Table ii: Overloads and Underloads in Enrollment Credits and Courses Offered Classified by Department, 1973-74

Department	Over or Under Loads	
	Enrollment	Courses
Hist-Am Stud	2.0	1.3
Pol Sci	1.6	1.2
Econ-Bus Ad	0.9	-0.3
Art	0.8	1.3
Psychology	0.6	0.9
Physics	0.6	-0.3
Soc-Anth	0.5	-0.4
Geology	0.0	-0.4
English	0.0	0.0
Phil-Rel	-0.2	-0.1
Education	-0.8	0.3
Chemistry	-0.9	-1.3
Thea-Comm	-1.3	-0.6
Biology	-1.3	-2.0
Math-CS	-1.4	-1.3
Mod Lang	-2.6	0.6
Music	-3.1	0.9

Source: Office of Institutional Research, February, 1975

The left-hand column in Table ii shows, for example, that the History-American Studies faculty carry far more than their share of student enrollments. But while this department's enrollment overload is 2.0 standard units, this figure does not take into account the relative ease or difficulty of teaching these subjects. The right-hand column, however, tells us that this department

had a course overload, expressed in faculty load units of 7.5, of 1.3. This comparison suggests that while some History-American Studies courses have higher standard enrollments than the college average; e.g., History 104-5-6 and History 201-2 = 27, more than half the enrollment overload (1.3/2.0) results from extra offerings by faculty and by overloading classes beyond their standard. It suggests that while the staff in this department may not be short by the two units indicated by Table III, there is a shortage of one unit. This does not mean that the college need add a person in History, though this is certainly one solution to the problem. Alternative solutions might involve (A) capital expenditure for the redesign of History 104-5-6 to raise the standard enrollment from twenty-seven to 80-100 or (B) the elimination of some of the department's offerings. Having seen very large sections of Western Civilization at Stanford, which were considered by the students to be among the best classes there, I am not impressed with the thought that something is lost by moving from a class size of forty-five, designed for twenty-seven, to a class of eighty, designed for eighty.[8]

At the other extreme consider the figures in Table ii relating to the Departments of Music and Modern Languages. Both are far behind in the production of enrollment credit; yet, from the standpoint of course offerings,

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[8] There are some sections of History 104-5-6 that a committee might well agree are designed for 20-22 students. The faculty effort required in these courses is very great indeed. The History department, incidently, requires more written work of Knox students than does the English department; this, not because it has more teachers, but because it gets more students. The questionnaires on course design indicate that the History department's faculty grades on style to a greater extent than the faculty of the English department. The History department has some truly excellent faculty and gets many bright majors. The fact should not be lost, however, that this department, which is the most overloaded at Knox College, is also one of the easiest majors to complete at Knox College. It's relative percentage of students graduating in the lower ten, twenty, and thirty percent of the class is very high. (See Table VI, Appendix I)

both appear to be understaffed. The difference in figures for these departments suggests that these subjects are expensive to teach. In the case of Music the truly expensive operation is Applied Music, for which the college gets some special compensation from the students. Music 106, Introduction to Music, is offered three times a year and has a standard enrollment of twenty-seven students. Individual listening to recordings in the audio-visual facility is encouraged. Whether or not a large class offered once a year with listening laboratories would be feasible, I cannot say. In any case it appears that Music will continue to be expensive instruction for the foreseeable future.

Table iii: Distribution of Class Size Standards, Optimum and Actual Enrollment, and Percent Efficiency, Classified by Class Size Standards, Modern Languages, 1973-74

Standard Class Size	Number of Classes*	Optimum Enrollment	Actual Enrollment	Percent Efficiency
7	3	21	13	61.9
10	4	40	13	32.5
12	7	84	67	79.8
15	25	375	220	58.7
20	24	480	399	83.1
Total	63	1,000	712	71.2

Source: See Appendix II: Reference Tables on Percent of Standard Enrollment Achieved.

* Includes no independent or advanced studies nor unscheduled classes taught TBA.

As Table iii shows, Modern Languages are expensive to teach, both from the standpoint of class size standards and from the standpoint of low course demand. The norms used in choosing these tentative standards seem to be the department consensus, size twenty for 100 level introductory courses, size fifteen for 200-300 level literature courses, size twelve for conversation

courses, size ten for 399 Comprehensives, and size seven (credits) for half courses in Serbo-Croation.

Some case might be made for higher standard sizes; say, twenty-five for 100 level courses and twenty for courses in literature. Given the standard sizes proposed, however, two things are clear. First, the optimum enrollment of 1,000 last year[9] for sixty-three courses is only seventy-seven percent of the 1,298 enrollments assumed in an average enrollment of 20.6 per class.[10] This difference of 1,000 and 1,298 represents the inherently high cost of teaching Modern Languages. Second, even taking into account the smaller class standards in this department, enrollment efficiency only averages 71.2%. An important problem for this department, therefore, is an insufficiency of demand for its courses. It is particularly inefficient in its literature offerings, and one has to suspect some of these courses could be eliminated.[11] When faculty are not reduced in proportion to enrollment demand and the number of classes remains relatively high, inefficient offerings will proliferate.

Looking once again at Table ii (page 10), one must remember that these data apply only to 1973-74. During that year we had several faculty off campus who have now returned. Departments such as Physics and Geology, which appear

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[9] No literature course taught in English, having a standard enrollment of twenty-seven, was taught last year.

[10] Based on past enrollment analyses, the Knox faculty should carry seven courses averaging 20.6 students in order to handle the total enrollment. To the extent that enrollments have fallen faster than faculty in the last few years the average class need not be this large if we can live with the higher unit cost.

[11] Ultimately, figures such as are presented in Table iii should be provided for every department. We have not completed these tables in this study since the standards used are tentative.

to be around par in staff and enrollments with one man on leave, may show up as overstaffed when faculty return. Table IV (Appendix I), which compares fall enrollments for 1973-74 with fall enrollments for 1974-75, shows that enrollments in Geology went up in 1974-75 but not enough to compensate for the return of one faculty. Enrollments in Physics actually fell in spite of the return of faculty. The development of General Education courses in Physics has raised its enrollments over what they were a few years ago, however, in spite of the fall in the student body.

Let us now look more specifically at enrollment demands and class size standards of the following science departments; Biology, Chemistry, Geology, and Physics.

As Table iv on the following page indicates, nine courses have been developed in these departments which are designed for forty-eight students or more. These courses should have helped the teaching economy of the college more than they actually have.

The economic problem with the sciences is not that the average class by necessity must be small. Discounting for half credit courses, if the eighty-four teaching units taught had an average standard enrollment of 20.6, the optimum total enrollment would have been only 1,730. The optimum arrived at in this study is twenty-seven percent higher than that; indeed, actual enrollment is eleven percent higher than 1,730. Setting aside the fact of six overloaded classes, flaws which might be corrected by course redesign, the achievement of eighty-seven percent of a high total enrollment standard cannot be considered unduly uneconomic.

Why then do the sciences, usually, appear to be overstaffed in terms of

Table iv: Distribution of Class Size Standards, Optimum and Actual Enrollment, and Percent Efficiency, Classified by Class Size Standards, Natural and Biological Science, 1973-74

Standard Class Size (Credits)	Number of Classes	Optimum Enrollment	Actual Enrollment	Percent Efficiency
6	1	6	1	16.7
8	6	48	31	64.6
10	6	60	44	73.3
12	8	96	93[a]	96.9
14	6	84	90[b]	107.1
15	5	75	42	56.0
16	2	32	27	84.4
18	3	54	58	105.5
20	11	220	170[c]	77.3
24	4	96	78	81.3
25	3	75	27	36.0
27	10	270	272[d]	100.7
30	6	180	168[e]	93.3
35	8	280	258	92.1
40	4	160	154	96.3
48	4	196	148	75.5
50	3	150	181	120.7
60	2	120	76	63.3
Total	92*	2,202	1,918	87.1

Source: Appendix II; Reference Tables on Percent of Enrollment Achieved.

* This total includes sixteen half credit courses and one course taught by Reno, who was listed on leave.
a: Includes one class 200% of standard.
b: Includes two classes 143% and 150% of standard.
c: Includes one class 155% of standard.
d: Includes one class 152% of standard.
e: Includes one class 160% of standard.

enrollment (Table III, Appendix I)? The answer is that these departments do not offer many classes. In 1973-74, 15.77 units of instruction in these sciences might have been expected to teach 110 course units, rather than the eighty-seven (includes three listed outside these departments) they did teach.

Obviously, these departments do not operate on a seven course teaching load. Furthermore, they seem to count half credit courses as the equivalent of full courses when computing teaching load. This latter accounting seems more than justified in some cases. The Biology department, for example, has one one-half credit course with a standard total credit enrollment of thirty (which actually had an enrollment of forty-eight) and three one-half credit courses with standard enrollment of forty-eight. At the other extreme, however, there were five one-half credit classes (Biology 361, 362, 363) which had a total credit enrollment of only twenty-five and which typically met once a week for a two-hour period.

The justification some science faculty give for adopting their individual course load accounting, rather than the college's standard accounting, is that the laboratory work is time consuming and that the material is especially rigorous. While I personally grant some of this argument, I feel that the science faculty is simply making a rational use of its resources. They handle the burden of science enrollment and even try to stimulate this enrollment by the construction of special courses. Also, they teach outside their area; i.e., last year, they taught two full units of Seminar 100 and two one-half credit group interest courses. If, discounting for half credit courses, they taught a total of eighty-seven courses instead of the 110 we might have expected, this is probably all of the effective work that could have been gotten out of these resources. All else might have been "make work," distorting the personal productivity we may assume is associated with relatively light teaching assignments. But in this case, anything economic that has been accomplished through course redesign has not accrued to the direct benefit of the college so much as it has resulted in more free time for the science faculty. The problem is

not one of the irrational use of teaching resources in the science department; it is a problem of having too many resources in these departments. I hold that these science departments could have gotten the same job done last year with two less faculty. This year they will have two more faculty facing a smaller student body. If, as I believe, the college must plan the reduction of at least ten faculty over the next several years, it is on the left-hand side of reasonable to suppose that the science faculty will not be affected by this.

Similarly, the department of Mathematics has become overstaffed. Table ii (page 10) shows this department to be 1.4 standard units behind in enrollments and 1.3 units behind in the adjusted teaching load. It may be argued, of course, that the class size standards used, which have not been verified, are too high--that they should more closely approximate those used for the Modern Language departments. I doubt not that a reviewing committee will give this argument some ground; yet, I believe, these three things: (1) The falling student body and the falling caliber of the student body in the last few years has adversely affected Math enrollments, reducing class sizes. (2) The fall in Math enrollments has been partially obscured by the rise in Computer Science enrollments. (3) The flexibility of the Quantitative Literacy requirement has cost the Math department some enrollments. I believe that the net effect of all this is that we are now overstaffed with mathematicians, and that my figures on efficiency reflect this.

Let us now turn to the more general question of class size standards and to the question of efficiency in instruction. Table V (Appendix I) summarizes these data.

The modal range class size standards used in this study is 11 - 20. The

distribution is positively skewed, tailing away to fewer and fewer classes in higher standard ranges. This, I believe, is at least somewhat as it should be at a small liberal arts college. We ought to advertise this fact. Nor should we apologize for some of the relatively large classes we have. As has been noted, some twelve large classes have been designed in the last two years with an outlay of $25,000 by the college.[12] This expenditure for course redesign supported the cutting of five teaching units in the departments of Economics, Philosophy, Political Science, Psychology and Sociology-Anthropology. Table V does show, however, that in 1973-74 the college had thirty classes which had over 120% of standard enrollment. I believe a reviewing committee will find that, while some of these standards used are questionable, more funds need to be expended on course redesign. We need to plan for more large courses. It will be found, also, that we need to eliminate some of our small classes.

The most startling thing about Table V is the relatively high percentage of classes of standard size 1 - 10 which achieved less than sixty-one percent of standard last year. Forty-six classes (58.2% of the classes size ten or under) operated with no more than sixty percent efficiency. Add to these the eighty-two classes with standard size 11 - 20 which achieved no more than sixty percent efficiency, and it will be seen that 128 classes--about one quarter of the total taught last year--were unnecessarily small.

In all, some 268 classes achieved no more than eighty percent of the standard enrollments assumed. This amounts to more than half the classes. Furthermore, remember my claim that the standards used are conservative--

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[12] These expenditures were a Knox College contribution to this study on class size standards, the basic funding for which has been supplied by the Carnegie Corporation of New York.

generally lower than the faculty recommended and closer to the student recommendations.

These figures on inefficiencey relative to class size standards should surprise no one. It is a fact that in the last five years total student enrollment has fallen by a much higher percentage than the faculty has fallen. It is a fact that following the 1966 decision to increase our enrollments we increased the size of the faculty to meet this increase. And when the student body began to decline, we did not cut faculty proportionately. While I would in no way ask the faculty and administration to accept out of hand the standards I have used--if I could set the standard class sizes, some person I do not regard as qualified might one day set them[13]--one would be highly suspect of any study on class size efficiency at Knox College over the last few years which did not show some considerable inefficiency in instruction. The consideration of class size standards merely modifies conclusions on enrollments for given departments. It does not change the overall picture of overstaffing.

Whether one looks at the unmodified enrollment data or considers efficiency in relation to class size standards, one finds an uneconomic teaching staff structure at Knox College. Failure to admit this inefficiency, combined with attempts to pass on unnecessary instructional costs by increasing student tuitions or reducing general scholarship funds (something of which may be inevitable in the best of circumstances) runs the very high risk of being self-defeating; of costing us even more students in the long run.

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[13] I mind Burnham's parting shot as he bolted the Trotskites: "Beware, comrades, of anyone who claims to be the sole Interpreter of Truth, or to have the only formula for finding the truth. It is the road of philosopher kings; of princes, and popes, and Stalins."

Yet, I do not favor a drastic cut in the Knox faculty in any one year. Such an experience would be traumatic for the community as a whole and might very well cost us more students than would a drastic tuition increase. Such was the misfortune of Monmouth College a few years ago. Moreover, the soundness of the educational system at Knox might be undermined. What I do say, however, is that we need a long run plan which would assume the dropping of one or two faculty a year for the next several years. And I believe we should abide by this plan irrespective of our being able to reverse our downward trend in enrollments by 1980.[14]

Not only do we need a reduction of faculty over the long term, we need a restructuring of department sizes over the long term. Ultimately, we must relate departmental staff size to student demand and to the intrinsic costs of instruction in the various disciplines. We are not going to be able to effect a rational faculty reduction through simple attrition. Very soon a department is going to have to be told that it must reduce staff within two or three years regardless of the circumstances of attrition in the department.

With this long term reduction in faculty must come a carefully considered reduction in our curriculum. We have altogether too many small classes which are not even close to achieving a modest class size standard. In the past, I have said that the too frequent repetition of such classes was a simple form of disguised unemployment of faculty. I have indicated that many of these classes

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[14] It is well known that the college age population (18-21) will begin to fall in 1980. While college going rates are beginning to recover, we cannot assume such increases will prevent the fall in our enrollments once the decline in high school graduates begins. During the last few years institutions of higher learning have lost students to other forms of "post-secondary education." There is no prospect that this loss can be completely recovered. It is predictable that colleges like Knox will expand their view of the college age population, moving heavily into adult education.

should be taught no more frequently than every other year. Now I say that the Curriculum Committee should seriously study the elimination of some of these classes. We are fast approaching the time when we are going to have to decide upon an actual structure of class sizes--so many large, so many small, etc.--as well as an actual structure of teaching techniques--so much tutorial, so much programed independent study, so much lecture, so much seminar, etc. The time has come to quit talking about the necessity of this restructuring and to get busy achieving it.

In this report I have made no attempt to point out the basic strengths of Knox College. That is not my function. I must say, however, that I do see strength, even in our conservatism in the cutting of faculty and in the elimination of some courses. A short run cost view which would turn experienced faculty out on a market that has developed a preference for promising, inexperienced faculty would not only be less than humane; it would be a sure sign of financial weakness. Our optimism and the high morale of our efforts to find the student numbers necessary to protect programs which, if once lost, will be very hard to recover is a strength. Yet, in the longer run the protection of individual faculty can never be the foremost goal of the college. If this were the case we would deteriorate into a mini-welfare state; at which point our conservatism would become our greatest weakness. Very soon, I think, we must face the realities of unit teaching costs in all the disciplines. Some things are inevitable. If the college ignores these realities in favor of a dreamlike optimism, I will feel much kinship with that Gaulish seer who, watching the eager and tumultuous preparation of his people for battle, whispered these sad words: "I see that Caesar will win!"

APPENDIX I

SUMMARY TABLES ON ENROLLMENT CREDIT, CLASS SIZE STANDARDS AND PERCENT OF STANDARD ENROLLMENT ACHIEVED, AND CLASS RANKING OF GRADUATES, CLASSIFIED BY DEPARTMENTS, 1973-74 AND FALL, 1974-75

I. Changes in Departmental Enrollments, in Enrollments of Departments' Faculty, and in Number of Faculty, 1973-74 and 1972-73

II. Departmental Credit Enrollment and Total Credit Enrollment of Departments' Faculty, 1971-72, 1972-73, and 1973-74

III. Number of Standard Enrollment Units Represented in the Credit Enrollment of Departments' Faculty, Number of Faculty in the Departments, Difference in Standard Enrollment Units and Number of Faculty in the Departments, Classified by Departments, 1971-72, 1972-73, and 1973-74.

IV. Fall Enrollments Classified by Departments, 1973 and 1974.

V. Distribution of Class Size Standards and Percentage Distribution of Percent of Standard Achieved, Classified by Standard Size and by Percent of Standard Enrollment Achieved, 1973-74.

VI. Ratios of Observed to Expected Frequencies of Students in Specified Ranges of Their Graduating Class Rank, Classified by Major, Knox College, 1974

VII. Load Adjustments Classified by Department

TABLE I

CHANGES IN DEPARTMENTAL ENROLLMENTS, IN ENROLLMENTS OF DEPARTMENTS' FACULTY, AND IN NUMBER OF FACULTY, CLASSIFIED BY DEPARTMENTS, 1973-74 AND 1972-73

Department	Change in Departmental Enrollments	Change in Enrollment of Departments' Faculty		Change in Number of Faculty	Net Gain or Loss
		N	SU*		
Chemistry	77	58	.403	0	+ .403
Geology	58	58	.403	- .67	+1.073
Biology	12	- 16	- .111	.67	- .781
Music	4	- 5	- .035	0	- .035
Physics	- 20	- 35	- .243	- .90	+ .657
Theatre-Comm	- 23	39	.271	.71	- .439
Phil-Religion	- 57	101	.701	-1.00	+1.701
Political Science	- 65	-104	- .722	- .72	0
Hist-Am Studies	- 67	-116	- .806	-1.05	- .244
Math-Comp Sci	- 75	- 90	- .625	.43	-1.055
Econ-Bus Adm	- 79	- 79	- .549	0	- .549
English	- 81	-162	-1.125	-1.76	- .635
Art	- 98	-102	- .708	- .33	- .378
Mod Languages	-130	-119	- .826	-1.00	+ .174
Education	-166	-155	-1.076	.33	-1.406
Psych-Hum Dev	-196	-179	-1.243	- .57	- .673
Soc-Anth	-301	-325	-2.257	-1.00	-1.257
Totals	-1093	-1231	-8.549	-5.86	-1.689

Source: Office of Institutional Research
September, 1974

* Standard Units

TABLE II

DEPARTMENTAL CREDIT ENROLLMENT AND TOTAL CREDIT ENROLLMENT OF DEPARTMENTS' FACULTY, 1971-72, 1972-73 AND 1973-74

Department	Department Enrollment 1973-74	1972-73	1971-72	Enrollment of Departments' Faculty 1973-74	1972-73	1971-72
Hist-Am Studies	1035	1102	1151	1004	1120	1182
English	858	939	999	872	1034	1084
Political Science	837	902	902	851	955	938
Econ-Bus Adm	772	851	892	772	851	892
Mod Languages	746	876	907	778	897	958
Math-Comp Sci	770	845	859	783	873	861
Soc-Anth	662	963	1050	672	997	1076
Biology	645	633	529	631	647	545
Chemistry	587	510	590	584	526	604
Psych-Hum Dev	545	741	835	562	741	850
Physics	505	525	423	529	564	436
Art	491	589	609	492	594	612
Education	400	566	606	396	551	515
Phil-Religion	388	331	620	403	302	652
Music	325	321	356	349	354	375
Theatre-Comm	312	335	333	395	356	349
Geology	291	233	268	291	233	268
Totals	10169	11262	11929	10364	11595	12197

Source: Office of Institutional Research
September, 1974

TABLE III

NUMBER OF STANDARD ENROLLMENT UNITS* REPRESENTED IN THE CREDIT ENROLLMENT OF DEPARTMENTS' FACULTY, NUMBER OF FACULTY IN THE DEPARTMENTS, DIFFERENCE IN STANDARD ENROLLMENT UNITS AND NUMBER OF FACULTY IN THE DEPARTMENTS CLASSIFIED BY DEPARTMENTS, 1971-72, 1972-73, and 1973-74

Department	Number of Standard Enrollment Units			Number of Faculty			Standard Units Minus Faculty		
	73-74	72-73	71-72	73-74	72-73	71-72	73-74	72-73	71-72
Hist-Am Studies	6.97	7.78	8.21	4.95	6.00	6.00	+2.02	+1.78	+2.21
Pol Science	5.91	6.63	6.51	4.28	5.00	4.29	+1.63	+1.63	+2.22
Econ-Bus Adm	5.36	5.91	6.19	4.43	4.43	5.29	+ .93	+1.48	+ .90
Art	3.42	4.13	4.25	2.67	3.00	3.00	+ .75	+1.13	+1.25
Psychology	3.90	5.15	5.90	3.29	3.86	4.29	+ .61	+1.29	+1.61
Physics	3.67	3.92	3.03	3.10	4.00	4.00	+ .57	- .08	- .97
Soc-Anth	4.67	6.92	7.47	4.14	5.14	5.43	+ .53	+1.78	+2.04
Geology	2.02	1.62	1.86	2.00	2.67	3.00	+ .02	-1.05	-1.14
English	6.06	7.18	7.53	6.10	7.86	9.19	- .04	- .68	-1.84
Phil-Religion	2.80	2.10	4.53	3.00	2.00	4.00	- .20	+ .10	+ .08
Education	2.75	3.82	3.58	3.50	3.17	3.50	- .75	+ .65	+ .08
Chemistry	4.06	3.65	4.19	5.00	5.00	5.00	- .94	-1.35	- .81
Theatre-Comm	2.74	2.47	2.42	4.00	3.29	3.00	-1.26	- .82	- .58
Biology	4.38	4.49	3.78	5.67	5.00	5.00	-1.29	- .51	-1.22
Math-Comp Sci	5.44	6.06	5.98	6.86	6.43	6.71	-1.42	- .37	- .73
Mod Languages	5.40	6.23	6.65	8.00	9.00	9.00	-2.60	-2.77	-2.35
Music	2.42	2.46	2.60	5.50	5.50	5.17	-3.08	-3.04	-2.57

Source: Office of Institutional Research, September, 1974

* 1 unit = 144: This figure is the total college enrollment for the base period 1968-69 through 1970-71, divided by the total faculty available for teaching during that period. Enrollment loads and faculty in Physical Education and Military Science were excluded in this calculation. The figure indicates that the standard enrollment load for each faculty member is seven courses averaging 20.6 students.

TABLE IV

FALL ENROLLMENTS CLASSIFIED BY DEPARTMENTS, 1973 AND 1974

Department	Departmental Enrollment 1974	1973	Net Change	Enrollment of Department's Personnel 1974	1973	Net Change
Art	163.5	148.0	+ 15.5	165.0	146.0	+ 19.0
Biology	215.5	207.5	+ 8.0	216.5	218.5	- 2.0
Chemistry	263.5	254.5	+ 9.0	263.5	254.5	+ 9.0
Classics	0	27.0	- 27.0	0	29.0	- 29.0
Econ-Bus Adm	316.0	278.5	+ 37.5	316.0	277.5	+ 38.5
Education	107.0	133.0	- 26.0	118.5	193.5	- 75.0
English	272.5	222.0	+ 50.5	337.5	251.5	+ 86.0
Geology	85.0	57.5	+ 27.5	84.0	57.5	+ 26.5
Hist-Am Studies	342.0	365.0	- 23.0	343.0	365.0	- 22.0
Math-Comp Sci	265.5	274.5	- 9.0	265.5	274.5	- 9.0
Mod Languages	258.0	271.0	- 13.0	258.0	302.5	- 44.5
Music	84.0	100.5	- 16.5	96.0	84.0	+ 12.0
Phil-Religion	103.0	104.0	- 1.0	113.5	124.0	- 10.5
Physics	134.0	157.5	- 23.5	161.0	171.5	- 10.5
Pol Science	318.0	344.5	- 26.5	318.0	358.5	- 40.5
Psych-Hum Dev	170.0	206.0	- 36.0	187.0	206.0	- 19.0
Soc-Anth	171.0	204.0	- 33.0	171.0	204.0	- 33.0
Theatre-Comm	76.0	95.0	- 19.0	88.5	107.0	- 18.5
			Total Net Change			-122.5

Source: Office of Institutional Research
September, 1974

TABLE V

DISTRIBUTION OF CLASS SIZE STANDARDS AND PERCENTAGE DISTRIBUTION OF PERCENT OF STANDARD ACHIEVED, CLASSIFIED BY STANDARD SIZE AND BY PERCENT OF STANDARD ENROLLMENT ACHIEVED, 1973-74

Class Size Standard*	Percent of Standard Achieved									
	1-20	21-40	41-60	61-80	81-100	101-120	121-140	141-160	Over 160	Total
1 - 10										
Number	11	18	17	17	11	3	0	0	2	79
Percent	13.9	22.8	21.5	21.5	13.9	3.8	0.0	0.0	2.5	100
11 - 20										
Number	10	30	42	54	50	32	13	5	6	242
Percent	4.1	12.4	17.4	22.3	20.7	13.2	5.4	2.1	2.5	100
21 - 30										
Number	0	17	12	30	38	26	18	11	6	158
Percent	0.0	10.8	7.6	19.0	24.1	16.5	11.4	7.0	3.8	100
31 - 40										
Number	0	0	0	2	9	3	0	0	0	14
Percent	0.0	0.0	0.0	14.3	64.3	21.4	0.0	0.9	0.0	100
41 - 50										
Number	0	1	1	0	3	6	2	0	0	13
Percent	0.0	7.7	7.7	0.0	23.1	46.2	15.4	0.0	0.0	100
51 - 60										
Number	0	0	1	1	1	3	1	0	0	7
Percent	0.0	0.0	14.3	14.3	14.3	42.9	14.3	0.0	0.0	100
Over 60										
Number	0	1	1	2	2	0	0	0	0	6
Percent	0.0	16.7	16.7	33.3	33.3	0.0	0.0	0.0	0.0	100
Total										
Number	21	67	74	106	114	73	34	16	14	519*
Percent	4.0	12.9	14.3	20.4	22.0	14.1	6.6	3.1	2.7	100

Source: Office of Institutional Research, February, 1975

* Class Size standards are stated in enrollment credits, which automatically adjusts for half credit courses. Class size standards are not established for Applied Music.

TABLE VI

RATIOS OF OBSERVED TO EXPECTED FREQUENCIES OF STUDENTS IN SPECIFIED RANGES OF THEIR GRADUATING CLASS RANK, CLASSIFIED BY MAJOR, KNOX COLLEGE, 1974

Major	Per Cent of Graduates	Index Numbers* Upper 10%	Lower 10%	Upper 20%	Lower 20%	Upper 30%	Lower 30%
Science-Math							
Biology	7.86	168	147	132	122	105	111
Chemistry	6.43	52	60	134	30	165	39
Geology	1.79	00	00	00	00	00	140
Math-Comp Sci	6.79	98	113	102	113	69	166
Physics	3.93	170	98	88	98	90	64
Psychology	6.79	49	57	76	113	69	110
Social Studies							
Econ-Bus Ad	9.64	104	80	107	100	110	91
History	7.50	44	205	92	154	63	117
PS-Int Rel	12.14	110	63	85	127	78	134
Soc-Anth	5.71	234	135	181	135	165	88
Education	3.21	104	359	107	180	73	117
Human Develop	1.42	00	271	243	135	166	176
Humanities							
Art	5.00	67	77	69	115	71	100
English	2.86	00	00	121	00	82	87
Foreign Lang	5.71	63	135	60	101	124	88
Music	.71	00	00	00	00	166	00
Philosophy	2.50	267	00	207	77	188	50
Theatre	4.64	144	83	74	83	101	135
Combinations	2.86	117	00	62	00	206	00

Source: Office of Institutional Research, July, 1974

*Indices are the ratios of observed to expected frequencies times 100 Expected frequencies were calculated as the percentage of graduates in the specified majors times the number of graduates in a stated range of the graduating class. An index of 100 means that the percentage of graduates in a given major in the range indicated was equal to the percentage of the total graduating class declaring that major. Thus, the data indicate that the Biology department had 68% more than its prorated share of students graduating in the upper ten per cent of their class.

TABLE VII

LOAD ADJUSTMENTS CLASSIFIED BY DEPARTMENT, 1973-74

Course	Term	Load Adjustment	Total
Art			
103	3	.36	
302	1	- .62	
302	2	- .75	
311	2	- .80	-1.81
Biology			
210B*	2	.31	
361	1	- .35	-0.04
Chemistry			
300	1	- .72	
301	1	- .60	
341	2	- .67	
342	2	- .60	-2.59
Econ & Bus Ad			
201	2	.41	
201	1	.44	
221	1	.33	
324	3	.30	
325	1	- .64	+0.84
Education			
327*	3	- .42	
345	3	- .93	
346*	3	- .93	
347	3	- .46	
365	3	- .93	
366	3	- .93	
367	3	- .46	-5.06
English			
209	2	- .70	
222	2	.39	
222	3	.72	
231	2	.89	
AS 397	1	- .30	+1.00
Geology			
115*	3	.23	
116	3	.15	+0.38
Hist & Am St			
AS 397	1	- .30	
398	2	- .60	
Hi 104	1	1.74	
105	2	.88	
241	1	.52	
321	1	.40	+2.64
Math & CS			
311	2	- .59	
312	3	- .63	
313	3	- .80	
342	3	- .60	
348	2	- .60	
349	3	- .60	
CS 101	1	.30	
101	2	.33	
101	3	.56	-3.54
Mod Lang			
Fr 101	2	- .60	
101	3	- .60	
201	2	- .60	
210	3	.42	
Sp 102	2	.50	
103	3	.75	
305	2	- .60	-0.73
Philosophy			
202	2	.70	
345	3	- .60	+0.10
Physics			
165	1	.41	
302	2	.40	
252	2	- .65	+0.26
Pol Sci			
210	1	.33	
230	2	.26	
240	3	.59	
304	3	.33	
310	1	.30	
362	1	.65	
363	2	.40	+2.96
Psychology			
202	1	1.90	
204	2	.37	
300	1	- .58	
309	1	1.80	
310	1	- .67	
332	3	- .93	+1.89
Soc-Anth			
SA 302	1	.58	
399	2	- .75	
An 306	2	- .80	
CPC201	1	- .60	
301	2	- .60	-2.17
Theatre			
211	1	- .67	
332	3	- .80	
334	3	- .67	-2.14

Load adjustments are calculated on the basis of the per cent of standard data shown in the reference tables. Only courses at least thirty per cent over standard or at least sixty per cent under standard and repeated in the last two years are cited.

* One-half credit course

APPENDIX II

STANDARD ENROLLMENTS CLASSIFIED BY DEPARTMENT

C O D E S

C = Computed each term

E = Estimated top enrollment demand

P = Planned for an enrollment load of

O = Optional

N = No

Y = Yes

( ) = Instructor's stated optimum class size; not requested of "lecture courses."

/S = Divided by number of sections

FRESHMAN SEMINARS

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Sem 100	11-21	N	Y-O	0-3	0-100	Y-N	0-15	140-320	P-15(10-20)

AMERICAN STUDIES

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
201	23	Y	Y	2	70	N	10	245	C
202	28			No Data					C
300	23	N	Y	2	100	N	30	180	P-18(30)
395	10			No Data					E-10
396	5			No Data					E-10
397	4	N	Y	4	--	N	30	120	P-10(12)
398	4	N	N	-	--	N	25	70	P-10(8)
399	4			No Data					P-10

A R T

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
103	25	Y	Y	2	50	N	--	210	P-50
105	48	Y	Y	2	80	N	--	210	P-40
106	58	Y	Y	2	50	N	--	210	P-50
200	15	N	Y	0	--	N	--	420	C (30)
201	8	N	Y	0	--	N	--	270	P-10(8)
202	21			No Data					C
203	15	N	N	0	--	N	--	420	P-15
204	8	N	N	0	--	N	--	420	P-15(15)
301	6	N	N	0	--	N	--	210	P-10(10)
302	3	N	N	0	--	N	--	IS	P- 8(8)
305	15	N	Y	0	--	N	--	420	P-15(20)
311	7	N	N	0	--	N	--	IS	P-10(10)
315	9			No Data				IS	E-10
319	9			No Data				IS	E-10
330-36	18	Y	Y	2	70	N	5	210	C

B I O L O G Y

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Bio									
101	23	Y	Y	2	50	N	--	315	C
200	42	Y	Y	2	15	Y	--	195	P-48
201	41	Y	Y	1	15	Y	--	285	P-48
205	36	Y	Y	1	--	N	--	280	P-40
210A	50	Y	Y	3	10	Y	6	245	P-48
210B	49	Y	Y	1	--	N	--	213	P-30
212	39			No Data				280	E-40
220	18	Y	Y	3	50	N	10	210	C
222	27			No Data					C
240	11			No Data					E-20
270	18			No Data					C
301	31	Y	Y	3	85	N	10		P-20
302	25/2	Y	Y	4	100	N	30-75	213	C/S(28/S)
303	13	Y	Y	9	60	N	--	245	E-24(24)
304	14	Y	Y	5	40	N	--	245	E-24(28)
307	14	Y	Y	3	70	N	--	280	P-14(14)
308	20	Y	Y	2	--	N	--	212	P-14(14)
309	11	Y	Y	4	50	N	--	300	E-25(25)
314	19	N	Y	2	--	N	4-8	280	P-20(20)
315	13	Y	Y	5	--	N	3	300	E-20(20)
318	23			No Data					C
319	11	N	Y				--		P-15
325	26	Y	Y	9	60	N	--	245	P-24
327	11	N	Y	7	50	N	10	150	P-12(12)
329	25	Y	Y	6	50	Y	--	190	P-24(24)
341	12	Y	Y	-	--	N	--	210	P-12
342	24			No Data					E-12
343,4,5	10	Y	Y	4	30	Y	--	300	P-12(12)
361,2,3	12	N	Y	2	50	N	4	280	P-8(6-10)
Bio-Chem									
204	15	Y	Y	4	25	Y	--	282	P-48(48)

C H E M I S T R Y

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101,2,3	35	Y	Y	4	0-30	N	--	350	P-35
211,2,3	31	Y	Y	4	0-30	Y-N	--	350	P-30
300	10	Y	Y	2	20	N	8	240	P-25
301	8	Y	Y	5	55	N	--	300	E-20
303	9	N	N	2	--	N	--	105	P-10(10)
316	3	Y	Y	2	5	N	--	220	E-20
321	28	Y	Y	3	30	N	--	280	C
321A	12	N	N	4	--	N	40	123	P-10
322	18	Y	Y	8	25	N	--	280	P-20
322A	5			No Data					E-10
323	11	Y	Y	10	--	N	--	280	P-20(20)
323A	3	N	N		--	N	25	76	E-10
324				No Data					E- 6
331	23	Y	Y	3	20	N	--	280	C
334	4	Y	Y	2	--	N	--	240	E-15
340,1,2	16			No Data					E-15

ECONOMICS AND BUSINESS ADMINISTRATION

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credit
103	18	Y	Y	3	90	N	--	280	C
200	54			No Data					P-60
201	23-40	Y	Y	2-7	50-90	N	--	280	C
202	28	Y	Y	5	60	N	2	280	C
212	5	N	Y	6	100	N	6	150	C
221	28	N	Y	6	20	Y	10	315	P-20
222	23	N	Y	5	10	N	5	245	P-20
301	31	Y	Y	3	90	N	--	280	C
302	30	Y	Y	3	100	N	2	210	C
305	5			No Data					E-15
306	8			No Data					E-15
311	29			No Data					C
312	20	N	Y	8	0	N	40	140	P-20(20)
314	16	N	Y	3	80	N	25	210	P-20(20)
315	23			No Data					C
320	22	N	Y	3	0	N	--	160	P-20(20)
321	17	N	Y	2	20	N	--	210	P-20(20)
322	13	N	Y	6	10	N	--	195	P-20(25)
323	24	N	Y	10	20	N	10	210	P-25(25)
324	35	Y	O	6	--	N	--	280	C
325	9	Y	Y	2	100	N	--	210	E-25(15)
326	19	Y	Y	1	100	N	15	210	C (20)
327	16	Y	Y	4	100	N	10	210	C
328	17			No Data					C
329	9			No Data					E-15
331	24	Y	Y	6	50	N	--	280	C

E D U C A T I O N

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
200	18	N	Y	2	75	N	8	142	P-18(18)
201	7	N	-	-	--	N	40	140	P-10(10)
309	19	N	Y	1	--	N	20	210	P-25(25)
311	21			No Data					E-20
312	7			No Data					E-10
313				No Data					E-12
318	5	N	Y	2	75	Y	--	210	P-12(12)
321-28				No Data					E- 6
329	16	N	Y	3	--	N	40	153	P-15(15)
345-6	14			No Data					E-15
347	6			No Data					E- 7
365-6	14			No Data					E-14
367	6			No Data					E- 6
368	12	Y	Y	-	50	N	--	70	½ c (22)
369	31			No Data					C
370	16	Y	Y	1	10	N	15	1 0	E-25
390	15	N	Y	9	40	Y	44	200	P-15(15)

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101	20	N	Y	-	--	N	32	140	P-20(20)
201				No Data					E-20
206				No Data					E-20
207	20	N	N	-	--	N	--	210	P-20(12)
208	20	N	N	-	--	N	--	210	P-20(19)
209	7	N	Y	-	--	N	90	240	P-20(15)
210	45	N	Y	1	60	N	15	212	P-65(65)
221	21	N	Y	-	--	N	12	210	P-20(20)
222	18-25	N	Y	1	100	N	12-25	210	P-18(20)
223	22	N	Y	2	100	Y	8	210	P-22(22)
225	25	N	Y	-	--	N	15	210	P-20(25)
231	52	Y	Y	4	100	N	--	210	C
232	58	Y	Y	2	100	N	--	210	C
241	34	Y	Y	4	90	N	15	210	C
251	34	N	Y	1	100	N	5	210	C (35)
252	25	N	Y	1	90	N	10	210	C (33)
307	12	N	N	-	--	N	--	180	P-10(10)
308	7	N	N	-	--	N	--	160	P-10(10)
309	2	N	N	-	--	N	--		P-10(10)
320	24	Y	Y	1	40	N	10	280	C
321	7			No Data					E-15
322-5	5-9	N	O	1	--	N	40	210	P-11(11)
330	9			No Data					E-15
331	5	N	Y	-	--	N	45	210	P-10(10)
334	1			No Data					E-10
340	15			No Data					E-18
341	9	N	Y	4	70	N	20	210	P-20(20)
343	8	N	Y	2	100	N	20	210	P-18(18)
344	3			No Data				210	E-18
345	10			No Data					E-18
346	15			No Data					E-18
347	12	N	Y	2	100	Y	15	280	P-18
348	14	N	Y	-	--	N	13	210	P-18(20)
360	5	N	N	3	--	N	30	210	P-15(20)
361	20	N	Y	-	--	N	30	210	P-15(15)

G E O L O G Y

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
111	13	N	Y	3	33	Y	--	354	P-16(16)
112	14	Y	Y	4	20	-	4	350	½C
113	10	N	Y	2	--	N	--	350	P-12(12)
114	9	Y	Y	-	--	N	13	245	½C
115	21			N o	D a t a				½C
116	18			N o	D a t a				½C
132	6			N o	D a t a				E-10
134	11			N o	D a t a				½C
200	22	Y	Y	1	50	N	--	220	P-20
201	20	Y	Y	1	10	N	--	210	P-20
210	56	N	Y	5	75	N	--	210	P-50
300	21	N	Y	6	70	N	4	280	P-18(18)
301	21	N	N	3	25	N	--	230	P-18(32)
302	16	Y	N	3	80	N	15	280	P-18(20)
303	14			N o	D a t a				E-15
304	10			N o	D a t a				E-15
305	9			N o	D a t a				E-15
306				N o	D a t a				E- 9
311	9			N o	D a t a				E-10
312	6			N o	D a t a				E-10
314	10			N o	D a t a				E-10
315	7	N	N	-	--	N	--	180	P-10
317	7			N o	D a t a				E-15
318	11			N o	D a t a				E-18
321				N o	D a t a				E-10
333	34			N o	D a t a				C

The recommendations for class size standards for the courses for which we had no returned questionnaire were made by Dr. DeMott, Department Chairman.

H I S T O R Y

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
104,5,6	33-47	Y-N	Y	2	70-100	N	0-20	210	C
201	40	Y	Y	4	80	N	10-20	210	C
202	21-30	Y	Y	3	70-90	N	20	210	C
241	45	Y	Y	2	100	N	10	210	C
242	34	Y	Y	3	100	N	15	210	C
301	16			No Data					C
302				No Data					C
303	4	N	Y	4	70	N	15	210	P-15(15)
309	8			No Data					E-15
319	18	Y	Y	1	100	N	10	140	C
320	22	Y	Y	2	90	N	--	140	C
321	35	Y	Y	2	100	N	30	210	P-25
322	28	Y	Y	2	100	N	30	210	P-25
324	20			No Data					E-25
325	17	N	Y	1	100	N	20	140	P-18(20)
331	13			No Data					E-25
334	15			No Data					E-25
335				No Data					C
336				No Data					C
342	16			No Data					E-20
343	22	N	Y	2	80	N	10	130	P-20(20)
349	15	Y	Y	2	100	N	30	145	P-18(18)
354				No Data					E-20
361	11			No Data					E-20
362	8			No Data					E-20
367	22	N	Y	2	100	N	20	210	P-20(25)
368				No Data					E-20
371	14	N	Y	1	100	N	20	140	P-15(15)
372	20	Y	Y	1	100	N	20	140	P-20
373	19			No Data					E-20
381	18			No Data					E-25
382	6			No Data					E-25
385	9			No Data					E-20
386	4	Y	Y	2	100	N	8	210	E-20
398	11	N	Y	2	--	N	20	150	P-18(18)

MATHEMATICS AND COMPUTER SCIENCE

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Math									
101,2	16			No Data					E-20
125	9	Y	Y	2	--	Y	--	135	½c
126				No Data					½c
127	5	Y	Y	2	10	N	--	120	½c
131	32	N	Y	3	10	Y	--	350	C (20)
151,2	17-25	N	Y	12	10	Y	--	350	C (25)
301	22	N	Y	12	30	Y	--	350	C (25)
311	22	N	N	12	30	Y	--	350	C (25)
312	11	Y	Y	10	30	Y	--	350	E-25(25)
313	5	Y	Y	2	--	N	--	350	E-25
315	29			No Data					C
316	8	N	Y	6	50	N	--	180	P-10(8)
317	8	Y	Y	12	30	Y	--	140	P-10(10)
319	4			No Data					E-20
321	17	N	Y	12	--	Y	--	350	P-20(25)
322	14	N	Y	12	--	Y	--	350	P-20(20)
323	9	Y	Y	2	--	N	--	210	E-25
327	8			No Data					E-16
331	11	N	Y	5	70	Y	--	350	P-16(16)
332	9	Y	N	-	--	Y	--	350	E-25
333	6	Y	Y	8	--	Y	--	350	E-25
334	6			No Data					E-25
338	8	N	Y	8	--	N	--	350	P-12(12)
339	7	Y	Y	8	--	N	--	350	P-12
341	12			No Data					E-16
342	4			No Data					E-16
348	4	N	Y	3	100	N	--	350	P-10(10)
349	4	N	Y	3	100	N	--	350	P-10(10)
CS									
101	38	N	Y	5	25	Y	--	350	C (35)
201	22			No Data					C

MODERN LANGUAGES

F R E N C H

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101-2-3	7-12	N	O-Y	4-5	20	Y	--	350	P-20(20)
201	14	N	Y	1	--	N	7	210	P-15(12)
202	11	N	Y	2	100	N	--	210	P-15(20)
210	17	Y	Y	5	100	N	5	210	P-15(20)
301	6			No Data					P-12
302	7	N	Y	5	100	N	10	140	E-15
303				No Data					P-15(20)
305	9			No Data					E-15
306	4	N	Y	2	100	N	--	240	E-15
311	11	N	-	7	100	N	10	210	P-15(20)
312	13			No Data					P-15(20)
316	17			No Data					E-15
319	8	N	Y	3	100	N	10	210	E-15
320	7			No Data					P-15(20)
321				No Data					E-12
325				No Data					E- 6
399	6			No Data					E-15
									E-10

MODERN LANGUAGES

G E R M A N

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101-2-3	11-25	N	Y	2-4	35	N	--	325	P-20(18-25)
201	12	N	Y	5	35	N	1	280	P-15(15)
202	7	N	Y	1	50	N	--	210	P-15(15)
210	6	N	Y	5	70	N	18	280	P-12(12)
301	5			No Data					E-15
302	6			No Data					E-15
305	4	N	Y	2	70	N	5	320	P-15(12)
306	11			No Data					E-15
311	7			No Data					E-15
316	7	N	Y	1	67	N	6	210	P-15(15)
317	11	N	Y	-	100	N	12	210	P-15(15)
320	8			No Data					E-12
325	7			No Data					E-15
326	4	N	Y	-	100	N	20	280	P-15(15)
399				No Data					E-10

MODERN LANGUAGES

RUSSIAN

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101,2,3	12-26	N	Y-N	7-12	15	N	--	300-350	P-20(16-20)
S-C*131,2,3	7-10	N	Y	4-7	30	N	--	120	P- 7(7)
201	14	N	Y	7	40	N	--	280	P-15(20)
202	10	N	N	10	65	N	5	240	P-15(15)
210	13	Y	Y	12	33	N	--	280	P-12(10)
301	8	N	Y	7	70	N	--	180	P-15(10)
302	8	N	Y	7	100	N	--	180	P-15(10)
305	10	N	Y	3	90	N	15	210	P-15(15)
311				No Data					E-15
320	8	N	Y	3	--	N	--	280	P-12(12)
325	1			No Data					E-15
330	28			No Data					C
331	11	N	Y	2	70	N	10	180	P-15(12)
399	3	N	Y	10	50	N	35	140	P-10

* Serbo-Croation

MODERN LANGUAGES

S P A N I S H

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101-2-3	11-29	N	O-Y	4	60	Y-N	--	325-350	P-20(20)
201	7	N	N	4	50	N	--	210	P-15(15)
202	12	N	Y	10	100	Y	10	210	P-15(15)
210	5-11	N	Y	6-11	100	Y	--	250-280	P-12(12)
301	16			No Data					E-15
302	7			No Data					E-15
303	11			No Data					E-15
305	6	N	Y	2	100	Y	10	280	P-15(15)
306	12			No Data					E-15
308	5	N	Y	4	100	Y	5	225	P-15(20)
311	4	N	Y	4	80	Y	5	195	P-15
312				No Data					E-15
319	1			No Data					E-15
320	7	N	Y	11	100	Y	--	70	P-12(12)
325	8	Y	Y	1	100	N	10	180	E-15
399	3			No Data					E-10

M U S I C

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
106	30	N	Y	4	--	N	--	175	C (20)
110	7	N	Y	3	100	N	--	210	P-12(12)
111	19	N	Y	15	--	N	--	350	P-20(25)
112	15	N	Y	9	--	N	--	300	P-20(20)
113	14	N	Y	12	--	N	--	300	P-20(20)
205	8	N	Y	11	10	N	--	300	P-15(15)
206	7	Y	Y	15	--	N	5-15	350	P-15
207	7	Y	Y	16	10	N	--	350	P-15
215	6			No Data					E-15
220	42	Y	Y	2	50	N	--	210	P-40
225	12			No Data					E-15
301	3			No Data					E-15
302				No Data					E-15
303	3	N	N	4	--	N	--	195	P- 8(8)
306	4			No Data					E-15
307	6	N	N	--	--	N	--	180	P-12(8)
308	6	N	Y	3	--	N	--	150	P-12(12)
309	6			No Data					E-12
310	4	N	Y	1	50	N	12	180	P-10(10)
311	2			No Data					E- 7
312	5	N	Y	6	--	N	--	165	P- 7(7)
313	2			No Data					E- 7
325	2	Y	Y	1	--	N	--	140	P-10
337				No Data					E-15
338				No Data					E-15
Human 201-2*	13	Y	Y	4	30	Y	--	280	C

PHILOSOPHY AND RELIGION

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Phil									
115	18-36			No Data					C
202	47	Y	Y	3	--	Y	--	210	C
210	19	Y	Y	1	100	N	20	210	C
211	14	N	Y	4	60	N	30	210	P-20(25)
230	26	N	Y	5	60	N	20	210	C (30)
240	37			No Data					C
301	21	N	N	-	--	N	45	210	P-20(25)
302	12	N	Y	1	100	N	40	210	P-20(25)
303	11	N	O	-	--	N	30	210	P-15(15)
304				No Data					E-15
305				No Data					E-15
330	9	N	Y	-		N	20	210	P-10(10)
340	9			No Data					E-15
341	11	N	Y	1	100	N	15	210	P-15(15)
345	6	N	Y	2	--	N	--	210	P-15(15)
Rel									
110	28	Y	Y	2	90	N	15	210	C
111	27	Y	Y	2	50	N	20	210	C
203	30	Y	Y	3	100	N	--	210	C
301				No Data					E-15
303	10	Y	Y	1	75	N	40	210	P-15
310	10	N	Y	1	--	N	13	210	P-15(15)

PHYSICS

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
141	46	Y	Y	8	20	Y	4	285	P-60
142	35	Y	Y	3	50	N	5	285	C
163	33	Y	Y	3	20	N	8	280	C (30)
165	38	Y	Y	3	--	N	4	210	C
166				No Data					C
222	5			No Data					E-10
223	5			No Data					E-10
241	18	Y	Y	2	10	N	--	280	P-20
251	13	Y	Y	3	--	N	--	260	P-20(20)
252	7	Y	Y	6	--	N	--	280	P-20
302	60	Y	Y	3	70	Y	10	210	P-50
303	39	Y	N	2	--	N	15	210	P-40(40)
306				No Data					E-10
311	6	N	Y	-	--	N	--	280	P- 8(8)
321	2			No Data					E-10
322	2			No Data					E-10
323	4			No Data					E-10
330	10	Y	Y	2	90	N	--	280	P-12
331	9	Y	Y	2	50	N	--	280	P-12
332	7	Y	Y	3	20	N	--	320	P-12
341	4			No Data					E- 5
342	4			No Data					E- 5
343	3			No Data					E- 5
399	8			No Data					E-10

POLITICAL SCIENCE

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
101	62	Y	N	-	--	N	20	140	P-60
201	73	Y	Y	2	100	N	4	280	P-75
210	36	Y	Y	1	70	N	15	210	C
220	12	N	Y	1	--	N	15	180	P-15(15)
230	34	Y	Y	7	25	N	--	180	P-25(20)
240	28	Y	N	-	--	N	20	210	C
301	11	N	Y	1	100	N	20	210	P-15(10)
302	15			No Data					E-15
303	12	N	Y	2	100	N	--	140	P-15(18)
304	36	N	Y	1	100	N	20	180	C (18)
307	13	N	Y	1	100	N	--	210	P-15
308	6	Y	Y	1	100	N	--	210	C
310	36	Y	Y	1	100	N	10	210	C
311	16	N	N	-	--	N	30	210	P-15(15)
312	16	Y	Y	1	60	N	15	210	E-25
315	29	Y	Y	1	60	N	15	210	C
316	34	Y	Y	1	60	N	15	225	C
321	18	Y	Y	1	100	N	15	165	C (30)
322	8			No Data					E-15
323				No Data					E-15
324				No Data					E-15
325	6	Y	Y	1	70	N	20	225	E-25
331				No Data					E-15
341	27	N	N	-	--	N	20	140	C (25)
342	16	N	N	-	--	N	20	210	P-20(25)
343	8	N	Y	1	--	N	20	420	P-12(12)
346	26	N	Y	1	100	N	15	210	P-20(20)
361	14	N	Y	1	100	N	15	210	P-15(12)
362	33	N	Y	1	100	N	--	210	P-20(20)
363	21	N	Y	1	100	N	--	210	P-15(15)
399	22			No Data					E-20

PSYCHOLOGY AND HUMAN DEVELOPMENT

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class Week	Standard Credits
Psy									
201	40	N	N	7	30	N	10	210	P-20(20)
202	42	N	Y	11	--	N	--	350	P-20(30)
203				No Data					P-60
204	35	Y	Y	7	45	N	10	210	C
205	62	N	N	3	--	Y	15	210	P-60(60)
209	10	N	Y	-	11	N	2	140	P-20(20)
210	20	Y	Y	2	--	N	10	210	C
212	40			No Data					C
300	6			No Data					E- 6
301	3	N	N	-	--	N	28	180	P-10
302	19	N	Y	2	100	N	5	210	C (30)
303	6			No Data					E-10
304	6	N	Y	4	33	N	20	270	P-10(10)
305				No Data					E-10
306	9			No Data					E-10
307	21	N	Y	2	100	N	20	210	P-20(30)
308	14	N	Y	4	30	N	4	210	P-20(20)
309	14	N	N	-	--	N	--	75	P- 5(5)
310	9	Y	N	4	--	N	--	250	C (25)
311	12	Y	Y	1	100	N	10	140	E-20
314	9	N	Y	1	100	N	--	140	P-15(25)
332	12			No Data					E-15
Hum Dev									
399	2	N	Y	-	--	N	10	---	P-15(15)

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Soc-An									
201	80	Y	Y	1	100	N	--	210	P-80
202	52	Y	Y	2	100	N	--	210	P-50
203	53	Y	Y	2	100	N	15	280	P-50
301	26	N	Y	1	100	N	15	210	C (28)
302	19	N	Y	1	50	N	26	210	P-12(12)
311				No Data					E-15
399	5	N	Y	-	--	N	20	---	P-12(12)
Anth									
203	25	Y	O	3	50	N	10	210	C
205	26			No Data					C
206	88			No Data					C
207	28	Y	Y	-	100	N	15	210	C
208	20	N	Y	-	67	N	10	210	P-15(15)
209				No Data					E-15
210				No Data					E-15
301	14	Y	Y	1	85	N	20	210	E-25
303	8			No Data					E-20
306	3	N	N	-	--	N	20	210	P-15(15)
308	6	Y	Y	-	--	N	--	210	E-25
309	13	N	Y	1	100	N	30	210	P-12(12)
Soc									
204	26	Y	Y	2	90	N	10	210	C
207	7	N	Y	4	100	Y	60	140	P-12(30)
217				No Data					E-15
303	20	N	Y	1	100	N	20	210	P-20(2[illegible])
306	12	Y	Y	2	100	N	10	210	C
307	29	Y	Y	2	80	N	15	140	C
309	32	Y	Y	2	100	N	18	210	C
CPC									
201	7	N	Y	-	--	N	39	140	P-15(15)
202	7	N	Y	-	--	N	20	150	P-15(15)
301	7	N	Y	-	--	N	60	150	P-15(15)

THEATRE AND COMMUNICATIONS

Course	Class Credits	Lecture?	Final Exam?	Number Prior Exams-Projects	Percent Essay-Oral	Student Grading Help?	Papers: Total Pages Required	Minutes in Class: Week	Standard Credits
Comm									
101	22	N	Y	3	--	N	10	210	P-20(20)
110	22	N	Y	-	--	N	16	240	P-20(20)
201	16	N	Y	-	--	N	--	210	P-15(16)
217	22	N	Y	4	40	N	35	240	P-20(21)
384	11	N	Y	1	40	N	30	210	P-15(20)
385	9	N	Y	-	--	N	30	210	P-15(15)
Thea									
211	9	Y	Y	1	100	N	10	210	C
221	13	N	Y	3	40	N	--	210	P-15(15)
231	11	N	Y	1	--	N	16	350	P-12(12)
232				No Data					E-12
244	17	Y	Y	-	--	N	20	295	P-20(20)
322	12	N	Y	8	--	N	--	280	P-12(12)
323	6	N	Y	6	100	N	--	350	P-12(12)
324	9	N	Y	3	--	N	--	285	P-10(10)
332	3	N	N	1	--	N	10	350	P-15(16)
334	4	N	Y	3	--	N	--	280	P-12(12)
340	7			No Data					E-15
341	5			No Data					E-15
342	12	Y	Y	1	100	N	20	280	P-20
349	12	Y	Y	-	100	N	45	280	P-15
399	10			No Data					E-10

APPENDIX III

PERCENT* OF STANDARD ENROLLMENT ACHIEVED, CLASSIFIED BY DEPARTMENT AND SCHEDULED OFFERINGS, 1973-

* In this accounting credits are not included for grades reported as WX nor for incomplete grades not removed by July, 1974.

AMERICAN STUDIES

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
201*	27		81			- 5	
202*	27			104			1
300	18	128			5		
395	10						
396	10						
397	10	40			- 6		
398	10		40			- 6	
399	10			40			- 6
500	10	70			- 3		

* Computed Standard

ART

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
103	50	50		136	-25		18
105	40	120			8		
106	50		116			8	
200*	27	59			-11		
201	10		80			- 2	
202*	27			78			- 6
203	15		80			- 8	
204	15	53			- 7		
301	10	60		70	- 4		- 3
302	8	38	25	38	- 5	- 6	- 5
305	15	107	80	33	1	- 3	-10
311	10	70	20	60	- 3	- 8	- 4
315	10		40	90		- 6	- 1
319	10		60	90		- 4	- 1
330-36	27		67	67		- 9	- 9

* Computed Standard

BIOLOGY

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101	27	85			- 4		
200	48	89			- 6		
201	48	85			- 7		
205	40			90			- 4
210A	48		104			2	
210B	30		161			18	
212	40			98			- 1
220*	27		67			- 9	
222*	27						
240	20						
270*	27						
301	20	155			11		
302*	27	93			- 2		
303	24		54			-11	
304	24		58			-10	
307	14	100			0		
308	14			143			6
309	25		44			-14	
314	20	95			- 1		
315	20		65			- 7	
318*	27		85			- 4	
319	15			73			- 4
325	24		108			2	
327	12			92			- 1
329	24			104			1
341	12		(100)			0	
342	12		(200)			12	
343	12		75			- 3	
361	8	31	50	69	- 5	- 4	- 2
362	8			100			0
363	8		50			- 4	
Bi-Ch 204	48			31			-33

* Computed Standard
( ) Not taught by department's personnel

CHEMISTRY

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101-1	35	114			5		
101-2	35	97			- 1		
101-3	35	100			0		
102-1	35		89			- 4	
102-2	35		100			0	
102-3	35		77			- 8	
103-1	35			75			- 9
103-2	35			86			- 5
211-1	30	97			- 1		
211-2	30	70			- 9		
212-1	30		77			- 7	
212-2	30		73			- 8	
213	30			83			- 5
300	25	28		40	-18		-15
301	20	40			-12		
303	10			85			- 1
316	20		15			-17	
321*	27	104			1		
321a	10	120			2		
322	20		90			- 2	
322a	10		50			- 5	
323	20			55			- 9
323a	10			25			- 7
324	6	17			- 5		
331*	27	85			- 4		
334	15			27			-11
340	15		107			1	
341	15		33			-10	
342	15	13		40	-13		- 9

* Computed Standard

ECONOMICS AND BUSINESS ADMINISTRATION

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
103*	27	67			- 9		
200	60			90			- 6
201-1*	27	85	141		- 4	11	
201-2*	27	144			12		
201-3*	27	100			0		
202-1*	27		100	115		0	4
202-2*	27		89			- 3	
212*	27		19			-22	
221-1	20	130			6		
221-2	20	130			6		
221-3	20	140			8		
222-1	20		90			- 2	
222-2	20		110			2	
222-3	20		130			6	
301*	27		115			4	
302*	27	107			2		
305	15						
306	15						
311*	27		107			2	
312	20			95			- 1
314	20	80			- 4		
315*	27						
320	20	110			2		
321	20		85			- 3	
322	20			65			- 7
323	25			96			- 1
324*	27			130			8
325	25	36			-17		
326*	27		70			- 8	
327*	27			59			-11
328*	27						
329	15		60			- 6	
331*	27			89			- 3

* Computed Standard

EDUCATION

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
200	18		100			0	
201	10		80			- 2	
309	25			76			- 6
311	20			103			1
312	10			70			- 3
313	12			(8)			(-11)
318	12		(42)	(17)		(- 7)	(-10)
321	6			(8)			(- 5)
322	6	8		42	- 5		- 3
323	6	67			- 2		
327	6	33		17	- 4		- 5
328	6	8		8	- 5		- 5
329			107			1	
345	15	94		6	- 1		-14
346	15	60		6	- 6		-14
347	7	79		7	- 1		- 6
365	15	94	94	6	- 1	- 1	-14
366	15	67	107	6	- 5	1	-14
367	7	100	86	7	0	- 1	- 6
368*	13	88	46		- 1	- 7	
369	27		33	115		-18	4
370	25	68			- 8		
390	15	100		46	0		- 8
391	15	100		46	0		- 8

* Computed Standard

ENGLISH

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101-1	20	100	90	90	0	- 2	- 2
101-2	20		90	85		- 2	- 3
201	20			55			- 9
206	20						
207	20	100		115	0		3
208	20			100			0
209	20		30			-14	
210	65		68			-21	
221	20	80	115	105	- 4	3	1
222-1	18	111	139	172	2	7	13
222-2	18	128			5		
222-3	18	83			- 3		
223	22	100	114		0	3	
225	20		115	110		3	2
231*	27		189			24	
232*	27			215			31
241*	27	115			4		
251*	27		122			6	
252*	27			93			- 2
307	10		120	120		2	2
308	10		50			- 5	
309	10			20			- 8
320*	27	89			- 3		
321	15						
325	11		45			- 6	
330	15						
331	10			50			- 5
334	10						
340	18						
341	20	45			-11		
343	18		22			-14	
344	18						
345	18						
346	18						
347	18	67			- 6		
348	18			78			- 4
360	15			27			-11
361	15		133			5	
399	10			70			- 3

* Computed Standard

GEOLOGY

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
111	16	81		84	- 3		- 2
112*	14	82		100	- 2		0
113	12		88			- 1	
114*	14		65			- 5	
115*	14		146			7	
116*	14		129			4	
132	10						
134*	14						
200	20		110			2	
201	20		100			0	
210	50			112			6
300	18		117			3	
301	18	117			3		
302	18			89			- 2
303	15						
304	15						
305	15						
306	8						
311	10						
312	10						
314	10						
315	10	70			- 3		
317	15						
318	18						
321	10						
333*	27						

* Computed Standard

HISTORY

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
104-1*	27		70	52		- 8	-13
104-2*	27	167			18		
104-3*	27	170			19		
104-4*	27	137			10		
104-5*	27	119			5		
104-1*	27			74			- 7
105-2*	27		144			12	
105-3*	27		144			12	
105-4*	27		122			6	
105-5*	27		(126)			(7)	
106-2*	27			148			13
106-3*	27			141			11
106-4*	27			30			-19
106-5*	27			96			- 1
201-1*	27	141	96		11	- 1	
201-2*	27	44			-15		
202-1*	27		100	107		0	2
202-2*	27		67			- 9	
241*	27	152			14		
242*	27		119			5	
301*	27						
302*	27						
303	15	27			-11		
309	15						
319*	27		67			- 9	
320*	27			81			- 5
321	25	140			10		
322	25		112			3	
324	25						
325	18	94			- 1		
331	25						
334	25						
335*	27						
336*	27						
342	20						
343	20			100			0
349	18		78			- 4	
354	20						
361	20						
362	20						
367	20			110			2
368	20						
371	15	93			- 1		
372	20			100			0
373	20						
381	25						
382	25						
385	20						
386	20			20			-16
398	18			56			- 8

* Computed Standard

MATHEMATICS AND COMPUTER SCIENCE

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
Math							
101	25		64			- 9	
102	25			58			- 8
125*	13		69			- 4	
126*	13						
127*	13			38			- 8
131-1*	27	116			4		
131-2*	27	119			5		
151-x	15	67			- 5		
151-1	27	96	93		- 1	- 2	
151-2*	27	85	100		- 4	0	
151-3*	27	74			- 7		
152-1*	27		67	70		- 9	- 8
152-2*	27		89	48		- 3	-14
152-3*	27		67			- 9	
301-1*	27	74		96	- 7		- 1
301-2*	27			81			- 5
311*	27	81	41		- 5	-16	
312	25		72	37		- 7	-15
313	25			20			-20
315*	27			107			2
316	10			80			- 2
317	10	80			- 2		
319	20		20			-16	
321	20		84			- 3	
322	20			70			- 6
323	25			36			-16
327	16						
331	16	69			- 5		
332	25		36			-16	
333	25			24			-19
334	25						
338	12	67			- 4		
339	12		58			- 5	
341	16	75			- 4		
342	16		25			-12	
348	10		40			- 6	
349	10			40			- 6
CS							
101*	27	130	133	156	8	9	15
201*	27		81			- 5	

* Computed Standard

MODERN LANGUAGES - FRENCH

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101	20	105	40		1	-12	
102	20		105	40		1	-12
103	20	30		100	-14		0
201	15	93	40		- 1	- 9	
202	15		73			- 4	
210	12			142			5
301	15						
302	15		47			- 8	
303	14						
305	15						
306	15		27			-11	
311	15	73			- 4		
312	15						
316	15						
319	15			47			- 8
320	12						
399	10			60			- 4

MODERN LANGUAGES - GERMAN

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101	20	125	55		5	- 9	
102	20		105	70		1	- 6
103	20	80		110	- 4		2
201	15	80			- 3		
202	15		47			- 8	
210	12			50			- 6
301	15						
302	15						
305	16		27			-11	
306	15						
311	15						
316	15	47			- 8		
317	15			67			- 5
320	12						
325	15						
326	15			27			-11
399	10			10			- 9

MODERN LANGUAGES - RUSSIAN

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101-1	20	130			4		
101-2	20	60			- 8		
102-1	20		90			- 2	
102-2	20		65			- 7	
103-1	20			70			- 6
103-2	20			70			- 6
131	7	79			- 1		
132	7		50			- 3	
133	7			50			- 3
201	15	93			- 1		
202	15		67			- 5	
210	12			108			1
301	15	47			- 8		
302	15		47			- 8	
305	15	67			- 5		
311	15						
320	12			67			- 4
325	15						
330*	27						
331	15	73			- 4		
399	10			30			- 7

* Computed Standard

MODERN LANGUAGES - SPANISH

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101-1	20	50			-10		
101-2	20	140			8		
102-1	20		120			4	
102-2	20		130			6	
103-1	20			135			7
103-2	20			140			8
201	15	47			- 8		
202	15		80			- 3	
210	12	92		42	- 1		- 7
301	15						
302	15						
303	15						
305	15		40			- 9	
306	15						
308	15		33			-10	
311	15	27			-11		
312	15						
319	15						
320	12			58			- 5
325	15			53			- 7
399	10		30			- 7	

MUSIC

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
106*	27	111	96	93	3	- 1	- 2
110	6	83	100	50	- 1	0	- 3
111	20	95			- 1		
112	20		75			- 5	
113	20			70			- 6
205	15	53			- 7		
206	15		53			- 7	
207	15			47			- 8
215	15			40			- 9
220	40			105			2
225	15						
301	15						
302	15						
303	8	38			- 5		
306	14						
307	12	50			- 6		
308	12		50			- 6	
309	12			50			- 6
310	10		40			- 6	
311	7	29			- 5		
312	7		71			- 2	
313	7	29			- 5		
325	10		20			- 8	
337	15						
338	15						
Applied		No Standard Applicable					
Humanities							
201	27		48			-14	
202	27			41			-16

PHILOSOPHY AND RELIGION

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
Phil							
115-1*	27		133	74		- 9	- 7
115-2*	27		70	67		- 8	- 9
202*	27		170			15	
210*	27		70			- 8	
211	20	70			- 6		
230*	27	96			- 1		
240*	27						
301	20	105			1		
302	20		60			- 8	
303	15	67			- 5		
304	15						
305	15						
330	10			90			- 1
340	15						
341	15			73			- 4
345	15			40			- 9
Relig							
110*	27	100			0		
111*	27		89			- 3	
203*	27			111			3
301	15						
303	15		67			- 5	
310	15			67			- 5

* Computed Standard

PHYSICS

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
141	60	77	50		-14	-30	
142*	27		114	107		4	2
162*	27			122			6
165*	27	141			14		
166*	27						
222	10						
223	10						
163*	27						
241	20			90			- 2
251	20	65			- 7		
252	20		35			-13	
302-1	50		132			16	
302-2	50		118			9	
303	40	98		100	- 1		0
306	10						
311	8			75			- 2
321	10						
322	10						
323	10						
330	12	83			- 2		
331	12		75			- 3	
332	12			58			- 5
341	5						
342	5						
343	5						
399	10			80			- 2

* Computed Standard

POLITICAL SCIENCE

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
101	60	103			2		
201	75	97	48	76	- 2	-39	-18
210*	27	133			9		
220	15	80			- 3		
230	25		136			9	
240*	27	96		159	- 1		16
201	15		67			- 5	
302	15						
303	15		80			- 3	
304*	27			133			9
307	15	86			- 2		
308*	27	22			-21		
310*	27	130			8		
311	15	93			- 1		
312	25		64			- 9	
315*	27		107			2	
316*	27			126			7
321*	27		67			- 9	
322	15		53			- 7	
323	15						
324	15						
325	25			24			-19
331	15						
341*	27		100			0	
342	20		80			- 4	
343	12			67			- 4
346	20			130			6
361	15			93			- 1
362	20	165			13		
363	15		140			6	
399	20			110			2

* Computed Standard

PSYCHOLOGY AND HUMAN DEVELOPMENT

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
Psych							
201	20		180	185		16	17
202-1	20	275		60	35		- 8
202-2	20	115		75	3		- 5
202-3	20			70			- 6
202-4	20			40			-12
204*	27		137			10	
203	60						
205	60	103			2		
209	20	50	145		-10	9	
210*	27			67			- 9
212*	27			148			13
300	8	42	100	58	- 3	0	- 2
301	10		30			- 7	
302*	27			70			- 8
303	10						
304	10	60			- 4		
305	10						
306	10						
307	20		105			1	
308	20			70			- 6
309	5	280	240	50	9	7	- 2
310*	27	33			-18		
311	20	60			- 8		
314	15		40			- 9	
332	15			7			-14
Hum Dev							
399	15						

* Computed Standard

SOCIOLOGY-ANTHROPOLOGY AND COMMUNITY PARTICIPATION

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
Soc-An							
201	80	100		39	0		-49
202	50		104	98		2	- 1
203	50	106			3		
301*	27		96			- 1	
302	12	158			7		
311	15						
399	12		25	67		- 9	- 4
Anth							
203*	27		93			- 2	
205*	27						
206*	27						
207*	27	78		104	- 6		1
208	15		133			5	
209	15						
210	15						
301	25	56			-11		
303	20						
306	15		20			-1[illegible]	
308	25			24			-19
309	12			108			1
Soc							
204*	27	126		96	7		- 1
207	12		58			- 5	
217	15						
303	20	100			0		
306*	27		44			-14	
307*	27			107			2
309*	27			119			5
CPC							
201	15	40			- 9		
202	15		47			- 8	
301	15		40			- 9	

* Computed Standard

THEATRE AND COMMUNICATIONS

Course	Standard Credits	Per Cent of Standard Credit 1st Term	2nd Term	3rd Term	Credit Enrollments Over Standard 1st Term	2nd Term	3rd Term
Comm							
101	20		110			2	
110	20	110		105	2		1
201	15	100			0		
217	20		110			2	
384	15		73			- 4	
385	15			60			- 6
Thea							
211*	27	33			-18		
221	15	87			- 2		
231-1	12	83	108	83	- 2	1	- 2
231-2	12	92			- 1		
232	12						
244	20			84			- 3
322	12		100			0	
323	12			58			- 5
324	10		90			- 1	
332	15	53		20	- 7		-12
334	12			33			- 8
340	15						
341	15						
342	20		60			- 8	
349	15		80			- 3	
399	10			100			0

* Computed Standard

APPENDIX IV

REPORTS ON MINI-GRANTS FOR COURSE REDESIGN

1. Allen G. Hiebert and Robert G. Kooser: Construction of an Interdisciplinary Laboratory for Bio-Chemistry 204
2. Herbert Priestley: Preparation of a Reader for Physics 303, Science and Society and Revision of Course Procedures
3. Janet Price: Course Redesign of Psychology 205, Social Psychology
4. Jack Fitzgerald: Course Redesign in Sociology-Anthropology
5. Gary Francois: Report on Course Revision of Psychology 202
6. Robert Harper: Re-tooling for Developmental Psychology
7. Wilbur F. Pillsbury: Construction of Workbooks to be Used With Cassette Tapes in Introductory Accounting*
8. Edward L. Niehus: Report on Film Course Design*
9. Lance Factor: Grant Request for Design of Philosophy 304**
10. Robert F. Seibert: Grant Request for Re-tooling in Research Methods and Public Policy Analysis**

* Two grants.

** Class Experience required for final report not completed.

PROGRESS REPORT

November, 1974

Bio-Chemistry 204 Laboratory: A New Interdisciplinary Laboratory for a Large Section Course

Designers: Allen G. Hiebert
Robert G. Kooser

The course is designed to introduce biology majors and allied health students to the principles of biochemistry. The laboratory portion, which is our concern, is to serve as an introduction to the common kinds of chemical instrumentation and to teach the basics of collecting and reporting of quantitative data. To make these principles seem relevant, we chose to design experiments which use biochemical systems.

The initial phase of the project was to create four suitable laboratories. This was done over the Mini-term, 1973 and the Winter Term, 1974. The laboratories are given in Table I.

TABLE I

LABORATORIES DESIGNED FOR BIO-CHEMISTRY 204

Title	Technique Emphasized	Remarks
Acids/Bases and pH	pH meter and gathering of simple quantitative data. Introduction to graphical reporting. Introduction to volumetric procedures.	Used amino acids to demonstrate principles
SGOT Assay by Absorption Spectroscopy	Absorption spectroscopy and use of Beer's Law. Introduction to working curves	Used student blood samples and current clinical method.
Separation and Identification Procedures	Chromatography and Extraction to separate complex mixtures	Used clinical procedure for sugar in urine and biochemical procedure for carotene in carrots
Enzyme Activity: Characteristics of Enzyme Catalyzed Reactions	Skills of previous experiments are required to characterize the enzyme system. Investigation of a multi-variable problem.	Used the enzyme invertase to hydrolyze sugar

These have been used in the first offering of the course in Spring 1974 which did not have a large enrollment. The basic experiments were found to be good, but needed modification in the instructions for clarity. Changes in the technique were also necessary in some cases so that it would be more suited to large numbers. Those refinements will be done for the next course offering.

Further work to be completed for this year includes the following:

1. Development of short programmed learning lesson on the fundamentals of chemical equations. Although all students have had two terms of chemistry, the general level of chemical skill was not high.

2. Development of audio-visual aids for the laboratory to help in instrument use. These will include taped instructions for the pH meter and slide/tape lesson on the use of the absorption spectrophotometer and on the use of volumetric equipment.

The course has an anticipated larger enrollment in this coming Spring. It will be of interest to see how the teaching techniques hold up under larger numbers.

Robert G. Kooser
Allen G. Hiebert

/GBL

PREPARATION OF A READER FOR PHYSICS 303 (SCIENCE AND SOCIETY) AND REVISION OF COURSE PROCEDURES.

REPORT ON ACTIVITIES SUPPORTED BY CARNEGIE GRANT.

As a course in the college curriculum Physics 303 has been offered every year starting with 1966-67. In recent academic years it has been offered twice per year. The content of the course has changed significantly over this time period, reflecting both changes in important societal problems and my own experiences in offering the course. For example, when the course was started, the environment and the Viet Nam war were of uppermost concern. Recently there has been much emphasis placed on the energy situation, developments in biomedical and genetic engineering, and the problem of feeding an ever-growing global population.

But whatever the problems considered, there were certain commonalities. The problems are open-ended and have no right solutions. They all necessitate multi-disciplinary inputs to any attempted solutions. They all involve individual and societal values and value-judgments. And they are by-and-large highly controversial and have advocates representing and speaking on behalf of widely divergent and frequently contradictory viewpoints.

It was with these commonalities in mind that I sought - and received - a Carnegie grant to permit summer-1974 being spent in putting together a reader which would bring within one cover articles speaking to the divergent viewpoints on each of a number of societal problems. As will be seen, it was felt that any detailed consideration of these problems necessitated that the student should have some basic understandings - of the interrelatedness of and the differences between science and technology; of the broad panorama of global problems; and of the nature of values and value judgments and of the influence of science and technology on values.

These comprise the first three sections of the reader and are followed then by selections of readings on a variety of specific problems.

Concurrent with development of the reader was a plan to change the modus operandi of the course. Previously I had operated on a basis of a significant amount of lecturing on my part and a lesser time devoted to group discussions. Under the planned change, these time allotments were to be reversed. My lectures would be reduced to a limited number of background presentations to the whole class with a major portion of the class time devoted to group discussions, for purposes of which the class was divided into two groups of 18-19 students each. To facilitate these plans, the reader includes a number of suggested "discussion pointers" for each section, "technical" notes where necessary, and a statement that introduces each section by providing a "road map" of the readings that follow.

How did it all work out? The degree of success varried. Part of the difficulties arose from the fact that compiling the reader was a more time-consuming activity than I had anticipated. The last few sections were not

complete until well into the term. However, this latter situation could be - and was - taken care of by lectures on my part.

The emphasis on student discussion met with mixed success. As is usually the case, there were some students who were quite vociferous others who were most reluctant to speak up. I accept some responsibility for this. It is clear that conducting class discussion involving majority if not total participation is an art that I have not yet mastered. But with this experience as a guide, I feel confident that I can do a better job next time.

One thing I do plan to do next time around. That is to have students start the discussion. This can be done be designating discussion leaders ahead of the group meeting. But this might tend to suggest to those not so designated that they need do no more than the minimum preparation prior to the meeting. Another alternative would be to simply select students to open the discussion at the beginning of the meeting. This should keep students more on their toes. Another technique which I would like to try the next time around is to organize some discussion meetings in the form of debates (e.g.: Resolved that nuclear power is unsafe and that there should be a nuclear moratorium).

Student reaction has not been sought as yet on any formal basis. Some participants have voluntarily expressed satisfaction with what we did. I plan to seek comment from the participants at an early date in the next term.

One other point. So rapid moving are events in the arena of topics in the course that the reader needed supplemental readings even though it was compiled as late as the summer. To this end I maintained a large bulletin board outside the classroom used and posted on it current news items and relevant articles. I would also say that I was probably overambitious in certain sections and included too many articles. I plan to do some pruning and revising before using the reader again in the Spring term.

But all in all I feel that the results - both tangible and intangible - are encouraging. Like any scholarship, this course and the reader must be a continuous on-going search for better ways to achieve the objectives laid out. This I shall hold as my goal.

Herbert Priestley

REPORT

COURSE REVISION

Psychology 205: Social Psychology

Dr. Janet Price

The aim of restructuring Psychology 205 was to investigate the potential of an independent learning system approach for increasing class size without decreasing the quality of instruction. Psychology 205 was chosen for this experiment because twice as many students indicated an interest in taking the course as could be accomodated, were it to be structured in the traditional way.

The basic structure used was an adaptation of the system described by Fred Keller.* His system is characterized by: a division of the course material into small units each of which must be mastered before work is begun on the next unit; immediate feedback on exams; a grading system based on the amount of material mastered rather than the degree of mastery of a fixed amount of material; and the use of student assistants to proctor exams and to help students having difficulty with the course materials. The format I used differed from Keller's format in: eliminating the use of student assistants for all but administering unit exams; arranging the material in independent units rather than in sequential ones; and in allowing students to proceed through the units in any order they wished. The course syllabus (Appendix I) describes the format used in more detail.

The syllabus was distributed and explained to the students in the first (and only) class meeting in the course. Students then proceeded to choose units to study and work through the course at their own rate. Their final grade in the course was a function of the number of units of material they completed. At the end of the

*Keller, Fred. Ne lected Rewards in the Educational Process. Paper read at the 23rd Annual Meeting of the American Conference of Academic Deans at Los Angeles, California. January 16, 1967.

term the students were asked to complete a general course evaluation (Appendix I) and the results of this course evaluation were punched onto I.B.M. cards and tabulated (Appendix III).

According to the results of this course evaluation, the college course evaluation, and informal feedback from students, the major problems with the course from the students' point of view were: the dependence on library materials; the lack of discussion groups; the ambiguity of the questions on the multiple-choice exams; and the amount of work required to earn a particular grade. In general, the students seemed to appreciate the independence required of them and the options allowed them.

The dependence on library materials resulted in part from the use of a text that was very readable and well-liked but which was too light-weight and therefore needed extensive supplementing with material from other sources. This was particularly hard on students who lived off campus. The problem was exacerbated by my unfamiliarity with the procedures and facilities of the library here and their unfamiliarity with courses requiring such extensive library reserve material. While the use of a more comprehensive text would alleviate the problem, to the extent that no material is presented in lectures, material supplementing the text is likely to be needed. This material is likely to come from a variety of sources which it would be inappropriate to expect the students to buy, and which would therefore be placed on reserve in the library. It is likely that courses set up in this way will in general tend to make heavier demands on the library reserve system than courses structured in a more traditional way.

The addition of discussion groups presents a somewhat more difficult problem. I tried several times to set up optional discussion groups but these were so poorly attended I gave up. Part of the difficulty in setting up discussion groups in a course that is self-paced is that fewer students are ready for discussion of a topic at any given time. In this respect, a still larger class size would help. Next year I will try to set up two weekly discussion meetings which will be optional but which will carry some sort of credit toward the course grade. Students wishing to take part in them would however have to pace themselves accordingly.

The problem that I received the most complaints about during the course was that of ambiguous questions on the unit exams. Since there was no opportunity to pre-test any of the questions, I realized before the course began that there were likely to be some ambiguous questions. While in a traditionally structured course these could be dealt with as discovered, in this course they could not easily be changed during the course. Because of this I set the passing level on the exams lower than I otherwise would have done and explained this fully to the students at the beginning of the course. While the students seemed to be able to accept this intellectually as a reasonable procedure, whenever they failed a unit exam by one or two points they searched for an ambiguous question and came to me feeling very much sinned against. While some of the questions were indeed not worded in the best way possible, I do not feel they were nearly as ambiguous as the students claimed they were. I think the major problem here was that whenever one uses a pass/fail grading system the arbitrariness of exactly where the line is drawn stands out much more clearly than it does when more lines are drawn. While students could take the second form of a unit exam when the failed the first form, I insisted that they wait until the next class period to do so, The cost of failing a unit exam then was to be held up for two or three days in the course. I think that scheduling the class for five days per

work would, by decreasing the cost in lost time for failing an exam, help alleviate this problem.

The final general criticism of the course by students concerned the amount of work it entailed on their part. This criticism showed up somewhat more clearly on the college evaluation, on which the general opinion was that students spent more time on this course than on their other courses. However when I consider that students also obtained higher grades in this course than in their other courses, I wonder whether this comment ought not be considered an indication of the success of the course. It is my impression that the clarity of the requirements for a high grade apparently encouraged many students to work harder than they otherwise would have done, and to get credit for doing so.

The only question on my course evaluation aimed at getting a general evaluation of the course structure was question JV-3, asking the students whether they would like to see more courses set up similarly. The response to it indicated that while most students would like to see more courses set up in this way, there was a small minority that disliked this structure. In an attempt to discover exactly what this group of students found most objectionable, I looked at the distribution of their answers to the other questions on the course evaluation. While it is difficult to come to reliable conclusions on the basis of such a small sample, there was some indication that this group of students differed from the majority in their attitude toward objective tests, in the importance they placed on discussion groups, and in their opinion of my accessibility as their instructor. The did not differ from the majority in CPA, sex, class, grade in the course, or extent of background in psychology. I would hypothesize that these students either find essay exams and discussions to be a major source of motivation, or have worked out successful grade-getting strategies

for courses emphasizing discussion and are less adept at courses with other structures.

In general, then, I feel that the course revision was successful in its aim of increasing class size without a corresponding decline in the quality of instruction. I certainly intend to continue to structure Psychology 205 in this way and think that such a class structure could work well in other courses.

KNOX COLLEGE

INTER-OFFICE MEMORANDUM

To Mr. Melville *Date* November 20, 1974

From Jack Fitzgerald *Subject* Course Redesign in Sociology-Anthropology, Final Report

The course redesign project undertaken by the Department of Sociology and Anthropology involved changing, not just a course or two, but a substantial portion of the whole departmental curriculum. Prior to the redesign effort, the department offered three different majors (Sociology, Anthropology, and a combined Sociology-Anthropology major) with three different, though somewhat overlapping, sets of requirements. The curriculum included three non-prerequisite, introductory level courses. "Introduction to Sociology" was offered three times a year, while "Introduction to Cultural Anthropology" and "Early Man" were each offered twice a year, accounting for a total of seven courses in the annual departmental faculty teaching load. In addition to these three introductory level courses, two advanced level theory courses ("The Development of Social Theory" and "Anthropological Theory") and one methods course ("Social Research Methods") were each offered once a year. The titles, content, organization and staffing of these courses reflected the traditional disciplinary separation of Sociology and Anthropology.

The department now offers one major (Sociology-Anthropology) with the core required courses of [illegible]ajor organized and, in most cases, staffed on an interdisciplinary basis. With the help of the course redesign grant, two new introductory level courses were developed: "Socio-cultural Evolution," which covers human evolution and the development of human societies from a hunting and gathering base to an industrialized base; and "Contemporary Societies and Cultures," which examines the social impact of the industrial revolution, the nature of industrialized societies, and "third world" societies in an environment dominated by industrialized societies. Each of these courses is offered twice a year, for a total of four courses in the annual departmental faculty teaching load. A third introductory level, topically oriented course, to be offered once a year was also developed. The topic currently being explored in this course is sex role definitions. A single course was developed to take the place of the two previously offered discipline-based theory courses. Entitled, "Theories of Society and Culture," the course is team taught, and considers the chronological development of social science theory, whether the particular theorists covered are conventially identified as sociologists, political scientists, anthropologists, etc. The content and staffing of the methods course was also changed to include a consideration of the philosophical issues which beset any attempt to study human behavior and the methods employed by both sociologists and anthropologists. The theories course is offered once a year, as is the methods course. Hence, the basic core structure of the departmental curriculum has undergone substantial change as a result of the course redesign effort.

It is too early and there are too many confounding factors in the situation to make an accurate assessment of the impact of these changes. It is possible, however, to make a number of observations about the short-run problems which have been encountered, to suggest some things about the present situation as compared with the past and to speculate about the future. First, it is important to bear in mind that the changes in courses and curriculum which were introduced in the 1973-74 academic year came at the same time as the elimination of a faculty position in the department became effective, reducing the number of full-time faculty positions to four. While the total number of introductory level course offerings was reduced from seven (the typical number of such courses in previous years) to five in 1973-74, this saving must be balanced against the loss of a full-time faculty position.

Second, the enrollment in the social sciences at Knox (and, apparently, in schools across the nation) has been going down in the last couple of years. The average number of students enrolled per introductory level course offering in the Department of Sociology and Anthropology from 1968-69 through 1972-73 was 59.6 students. In 1973-74 this average was 54.4. Perhaps this is merely a dip in the general cyclical pattern of departmental enrollments, or a reflection of some of the difficulties to be discussed below. It may also be the case, however, that our redesign efforts have resulted in courses which are less attractive to students.

Third, while the faculty had anticipated considerable difficulty in putting together the new courses, this task turned out to be even more difficult than had been foreseen. Finding genuinely interdisciplinary reading materials appropriate for the introductory level courses was difficult and the effort and adjustments necessary to present an effective team of teachers were underestimated. Our failure to accurately assess the difficulties involved resulted in a perceptible amount of discombobulation in the new courses.

Fourth, both current and prospective majors expressed uncertainty about what was happening in the department. Some resented what they saw as an unholy mixture of disciplines forced upon the department by the administration's decision to reduce the number of full-time faculty positions. Most, however, seemed to take a cautious "wait and see" attitude toward the new curriculum. The feedback from

students who enrolled in the new courses, derived from individual student conferences with faculty members and from the course evaluation questionnaires distributed by the Faculty Committee on Personnel, was, in general, more negative than the feedback from the courses offered prior to the redesign effort. We suspect that much of this negative reaction can be accounted for by the generally skeptical attitude of students concerning new courses that are required for a major, and by the students' accurate perceptions of the relatively disorganized initial efforts at teaching these courses. We hope that these factors are temporary, but we cannot, of course, be sure about that.

As for this current academic year, the feedback concerning the new curriculum seems to be more positive as students become more familiar with new courses, the faculty becomes more adept and comfortable in the team-teaching effort, and the required reading material becomes more stimulating and more suitable given the interests and the capabilities of the students and the course objectives.* The increased use of films, especially in the introductory level courses, has been received very well by the students and faculty alike.

As should be clear from the discussion above, the new courses are still undergoing revision. Most of the redesign efforts thus far have been invested in the introductory level courses. We believe these courses are approaching a reasonably satisfactory format. Additional work remains to be done on the methods and theories courses, however. Departmental majors and other selected students have been invited to join the faculty in a thorough review and assessment of the new courses in the winter term of this year. This will be the next step in our continuing attempts to evaluate and improve on the new curriculum.

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* I would not want to be misunderstood here. Some of the reading material selected for use in the first offerings of the new courses was too advanced and alternative materials were sought for subsequent offerings. We believe, though, that the materials now being used in these courses is more advanced than the materials used in the courses offered prior to the course redesign effort.

JF:pm

Jack Fitzgerald

KNOX COLLEGE
GALESBURG ILLINOIS 61401

Gary Francois
Department of Psychology

Report on Course Revision of Psychology 202

Last year, we proposed to develop a course capable of handling a large enrollment without utilizing large lectures or multiple faculty. The theoretical core of our proposal was that the major function of the large lecture was (1) to communicate to the students what facts and understandings they needed to know in order to obtain a satisfactory course grade, and (2) to clarify for the students obscure or confusing ideas presented in their text. We do not mean to imply that these are the only functions performed by the large lecture, but these are two major functions of the lecture. With this idea in mind we reasoned that large lectures would be unnecessary if the different objectives of the course were spelled out explicitly for the student and if obscure and confusing points in the text were anticipated and clarifying explanations provided. Toward these ends, a detailed syllabus, keyed to the text, was prepared (see attached copy). Detailed instructions for experiments, involving both rats and humans, were designed and keyed to specific chapters. Multiple-choice questions, designed to measure particular objectives, were prepared. The syllabus identified ten cognitive and affective objectives (derived from Bloom's Taxonomies), indicated the proportionate weight of each object toward overall course achievement, and indicated what the student had to do (answer test questions, participate in group discussion, or complete lab assignments) to demonstrate

achievement of each objective.

The intent of these procedures was to free the instructor from the need of setting up experiments, making up tests, and preparing lectures with their accompanying visual aids during the term he was teaching the large course. Experiments were designed in such a way that satisfactory completion of them could be indicated by a simple summary of the data, thereby negating the need for long write-ups and the attendant time-consuming grading problems. A special scoring machine was used to score test papers. This machine is easily programmed and can score a 50-item answer sheet in less than one second. All of these devices freed the teacher to spend his time in small group discussion sessions or informal in-office discussion with students. Such a procedure, although requiring the full-time assignment of one teacher, and demanding that the teacher meet at least 4 discussion sections on each of 4 days per week (each student meets 2 discussion sessions per week), can easily handle 200 students per term (although our current lab space limits enrollment to 20 students per weekly lab period or a total of 140 students if we use lunch period and a post-5th period lab).

This new program was initiated in the Fall of 1973-74, with both of us participating. Two things quickly became apparent. (1) The syllabus should not have been keyed to a specific text. It should have been developed around concepts, with the key features and the potentially ambiguous features of each concept pointed out. Experiments should be keyed to the concepts. The pages, then, of any specific text could easily be related to each concept. (2) Our initial procedure for "earning points" that would demonstrate achievement of certain cognitive objectives and all the affective objectives required the

students to submit daily scores of "points earned". This was a disaster. The procedure oriented students toward "earning points" rather than "learning psychology".

Dr. Francois taught the course again in the Spring term of 1973-74. During the Fall, item analyses had been made of each test. The tests were revised in light of these results and modification of the means of measuring objectives other than those measured by the tests and lab exercises was made. The discussion evaluation procedure was such that all "points", concerning discussion, were combined to form a single category objective. This seemed to have worked much better. There is still some evidence suggesting that the students are "talking" for points rather than for clarification.

The procedure of allowing the students to select which discussions they would attend has resulted in few difficulties. Some sections have been over-attended and others under-attended. Also, due to the continuous heterogeneous make-up of each group, it was very difficult to have a continuing discussion between sections. By having the students sign-up for specific discussion sections, this difficulty can be overcome.

The course is being offered, with some of the modifications, during the Fall term 1974-75. The tests have been reanalyzed and reworked. Initially, the students seem to have a lot of difficulty grasping the technical aspects of the course procedures, but do gradually utilize them.

The current plan is to rewrite the syllabus keyed to concepts. The instructor should not have an additional preparation during the term(s) this particular course is being offered, enabling him/her

to devote full time to the students in the discussions and labs.

To: Mr. Melville
From: Mr. Harper

Subject: Course Development
Date: October 17, 1974

In the winter of 1971-72, two non-tenured members of the faculty of the Department of Psychology were given terminal contracts for 1972-73. One of them actually left for a new position in September, 1972, resulting in our department being short one staff member that academic year. That fall, as chairman, I had lined up several candidates for the two openings. In December, 1972, at our invitation, Dr. Janet Price visited Knox. She had the professional credentials we wanted for one of the positions. She returned to her own school on a Saturday to await a letter from us -- either offering her a position or not. The following Monday, via telephone, I was told that I could not fill the other position "this year". When the Dean of the College returned from Indonesia, he and I agreed that an offer should be extended to Dr. Price. We both knew that this would leave a significant gap in the area of developmental psychology within our department, but we needed and wanted Dr. Price's expertise, and we felt we could tolerate a one-year absence of developmental psychology from our cirriculum. We offered Dr. Price a contract, and she accepted. During the fall and winter of 1973-74 our new departmental chairman, Dr. Francois, tried repeatedly to get administrative clearance to commence search for a developmental psychologist. Finally, in March, he got his answer. There would be no additional faculty. The department, and a study conference sponsored by the American Psychological Association, feel that

developmental psychology is an absolute necessity in our curriculum. Consequently, I agreed to try to "re-tool" myself as a developmental psychologist. Your grant for the summer of 1974 facilitated this move.

I spent three full days a week for three months reading the latest books in this area, trying to get an overview of the total field as well as becoming acquainted with the current data base of the various concepts. Then, in anticipation of future enrollments in the neighborhood of 100 or more students, I utilized some ideas that Dr. Francois and I had generated during the previous summer to organize the current course. The course structure that evolved calls for bi-weekly 50 question machine-scored multiple-choice exams and an accompanying 1-page discussion question (carrying half the weight of the m-c exam). With a senior student to help grade the essay, this structure can handle 100 students with exams being returned on Monday following a Friday test. A second feature, also derived from the 1973 summer project, involves presenting the students with a bi-weekly set of discussion questions. These questions, hopefully, serve to direct the students toward the major developmental concepts of the field and so help them "see through" the chronological age organization of all texts. This format also obviates the need for a large lecture (as long as the text and discussion questions are adequate), letting the instructor interact on a discussion basis with 25 or fewer students meeting 2 or 3 times per week.

This course is currently at the mid-point of its first offering. I am sure it will be modified at its next offering, although I am not yet ready to say exactly how.

KNOX COLLEGE

INTER-OFFICE MEMORANDUM

To George Melville *Date* December 7, 1973

From Bill Pillsbury *Subject*

This memo will serve as a report on the grant of $800 which you gave me for the Summer, 1973. The expenditure of $800 was as follows:

$500 salary for Bob Westerberg, a senior student, to assist in writing the script material and workbooks for 26 separate cassette-workbook modules to be used in the Principles of Accounting course (Econ 221-222).

300 printing the workbooks and purchase of 52 cassette tapes.

I am attaching three sample workbooks of the 26 prepared. There is a cassette tape which accompanies each workbook. Thirteen of the workbooks and cassette tapes have been used on an experimental basis during the Fall Term; the other thirteen will be used during the Winter Term. They have been used by the students purely on a voluntary basis. This voluntary basis is used because the cassette-workbook modules are designed as a remedial type of material which the student is to go over if he would like further review of that which is covered in class. They give the student an opportunity to work at his own speed of learning, a chance for immediate feedback of answers, and an opportunity to review the lesson as many times as he wishes, thereby a saving of faculty time. The students attend the cassette laboratories only when they wish to review the particular subject of the cassette-workbook.

Some 90% of the 86 students in the course used one or more cassette-workbook modules. Approximately 60% of the students used more than five cassette workbook modules; 30% of the students used more than 10 of the 13 modules for this Fall Term.

The reaction from the students who have used the modules has been very favorable. While it is difficult to keep control group statistics under our voluntary arrangement

KNOX COLLEGE

INTER-OFFICE MEMORANDUM

To George Melville *Date* December 7, 1973

From Bill Pillsbury *Subject*

a course evaluation written by the students on an anonymous basis showed many favorable comments on the modules; 60% of the 86 students in the course wrote favorable comments on how the cassette-workbooks had helped them in reviewing the material. The material seemed especially helpful to the black students in the class as well as others who seemed to have a weak background.

The cassette-workbook modules have also been used on an experimental basis by students at Long Island University in Brooklyn, New York and Broward Community College in Fort Lauderdale, Florida. Accurate statistics of control groups will be forthcoming from these two schools at the end of the academic year. However, I am attaching copies of letters received from the two schools showing their favorable reaction to the material.

I wish to thank you for this $800 grant which has enabled me to expand the class to the 86 students while at the same time using the cassette-workbook material written under the grant to individualize the course over specific material. It has also freed me to devote more time to individual students on a personal basis.

If you have any questions please do not hesitate to contact me.

W.F.P.

Report on Film Course Design

A grant of $2500 was used to design and support an introductory film course with a planned enrollment of fifty students for the first year. The intention was to allow the enrollment to rise as high as seventy in future years. Because of excellent cooperation from the Knox Cinema Club, costs were not as high as anticipated and $184.38 of the grant was not used.

Student evaluations and suggestions were gathered through individual interviews, Personnel Committee questionaires, and a specially designed, optional questionaire to which two-fifths of the class responded.

Preparation and Planning

Most of the summer and December of 1973 were spent in preparation and planning of the course. I read widely in the literature on film and in the material dealing with the pedagogical approaches to film study. In order to get additional suggestions and models for the course, I arranged several meetings with film instructors at Western Illinois University and the University of Chicago. I also corresponded with a film instructor at Cornell University and attended a film study symposium at Northwestern University.

Because the holdings of the Knox library were not sufficient to support the course, some of the grant money was used to purchase film books for the library. Through gifts and grants from various other sources, the library's holdings related to film were at least quadrupled.

Nature of the Course

Since the course was intended to be an introductory, general education course, and since no advanced or more specialized courses were planned, I felt that it would be best to introduce the students to a variety of technical, theoretical, and critical approaches to film. The use of these multiple perspectives led to some confusion about the organization of the course in the minds of a few of the students. I still believe that such an approach is desirable, but perhaps more of an effort should be made to explain it to the students. Nevertheless, the nature of the material is such that it probably defies simple and obvious organization.

The course was made up of a combination of lectures, discussions, and film viewings. Lectures were usually given on Tuesday, films were viewed on Wednesday and Saturday evenings, and on Thursdays the class was divided into two discussion sections. A few students indicated a preference for more lecture and less discussion, and an equal number seemed to prefer less lecture and more discussion. I think that the present mixture is probably the best compromise given the intended size of the class.

The smaller discussion groups seemed to be quite successful, and I feel that the rather personal and subjective nature of the film experience makes it very desirable that the students have this chance to express and discuss their individual responses. If the class increases in size in future years, it would be best to continue with discussion sections of no more than 25 students; however, without some relief through faculty or student assistance, this is probably too much to ask of the instructor.

I think that an additional class meeting per week for lecture-discussion would have been desirable. It would have solved one particular difficulty: insufficient time for thorough in-class coverage of assigned readings. The students, however, were already spending between 4½ and 8½ hours per week in meetings or viewings, and I doubt that many would have wanted to add another hour to that load. It might be possible to reduce the amount of viewing and add another lecture session, but the aims of the course make desirable as broad a viewing experience as possible.

Readings

Two texts and some library readings were assigned. While the amount of reading was not burdensome, it was substantial. I was especially concerned that the students be introduced to more material than could possibly be conveyed in the limited number of lecture-discussion sessions. This seemed to be one way to counteract the limitations imposed by class size. Some students seemed to feel that there was something unfair or unproductive in assigning material which was not to be specifically discussed or reiterated in class. I can understand the uneasiness this caused in particularly grade-conscious students, but I still feel that the educational and practical advantages warrant a continuation of the procedure.

Papers

The size of the class presented a particular problem with respect to the assignment of papers. The nature of the course and the film experience made papers a most effective educational and evaluative tool. I assigned a combination of three short papers to be graded Satisfactory/Unsatisfactory and two longer papers to be graded on the traditional scale. It was hoped that the short S/U papers would add to the learning experiences without imposing too much of a grading burden on the instructor. This procedure seemed to meet with widespread approval from the students.

While I feel that the paper assignments were very successful, the grading of and commenting on them did become very time consuming, and I am afraid that the number of such assignments will have to be curtailed in the future. This may be somewhat detrimental to the course, but I see no feasible alternative without increasing instructional costs.

Examinations

In order to evaluate different aspects of knowledge and ability, a variety of question types were used in the two exams. About one fourth of each exam was made up of objective or short answer questions. Essay questions on previously assigned material made up one half of the exams, and the final fourth was essay questions based on films which had not previously been viewed.

The essay portions of the examinations were readily accepted, but the objective portions were met with a significant amount (perhaps 25% of the class) of student resistance. In spite of the considerable care which went into the creation of the objective questions, a number of students felt that such questions were "picky" and demanded unwarranted recall abilities. I assume that students accept this type of testing in other courses, and it did seem that in several cases their disapproval was based upon preconceptions about what was appropriate to a film course. Other students, however, did seem to resent any use of objective testing. Nevertheless, I feel that such testing is educationally valid and should be continued. In fact, increased class size will probably necessitate even greater use of objective and short answer questions in the future. I would hope that the students will come to accept the validity, as well as the necessity, of such testing.

Conclusion

I feel that the course, as designed for an enrollment of fifty, was generally successful. Most of the students were quite enthusiatic about the subject matter and seemed to feel that the course satisfied their needs. The major problems in the course design are size related. Students resist the use of objective and short answer testing, while paper grading and small discussion groups impose a considerable burden on the instructor. An increase

in class size will necessitate even more compromise in these areas. While such compromises are not desirable, they should be manageable. Less compromise would be necessary if it were possible to arrange for a student assistant to relieve the instructor of the time consuming chores of handling, showing, and shipping the films.

Even though the size and costs of the course present problems which are not fully resolved, I feel that the promise of the course and the importance of the material warrant continued support by the college.

Edward L. Niehus
Asst. Prof. in English
Knox College

May 8, 1974

George Melville
Office of Institutional Research
Knox College
April 16. 1974

Dear George,

The curriculum committee has approved the following changes for the philosophy department:

1. Drop Philosophy 303 (Contemporary Analytic Phil.)
   Drop Philosophy 320 (Existentialism and Phenomenology)

2. Add Philosophy 304 (Twentieth Century Philosophy)
   A survey of some of the major movements in contemporary philosophy such as logical positivism, existentialism, and phenomenology. Readings are selected from the works of Russell Wittgenstein, Ayer, Husserl, Heidigger, and Sartre. Prerequisite-one course in philosophy or permission of instructor.

As the description indicates, this course will be a survey, and like any survey there is the danger that individual features will be obscured by the prominent points of the terrain. I don't see how this shortcoming can be entirely avoided; nevertheless, I'm determined to avoid simply presenting caricatures of divergent philosophies and I'm dtermined to prevent myself and the students from transforming the subject into a catalog of "isms" and "ists".

Since there is no single philosophical problem or issue which, as far as I know, could tie all these thinkers together, and since there will not be time to develop a historical approach, preparing for this course presents something of an organizational problem- a problem which is compounded by my lack of expertise in the fields of phenomenoloby and existentialism.

At present my strategy is to select readings which will emphasize the contributions and influence of each philosopher to the methodologies of the natural and social sciences. Roughly speaking the logical positivists, Russell, Wittgentstein, and Ayer, can be compared in terms of their contributions to the philosophy of science; correspondingly, Husserl and Heidigger can be compared in terms of the phenomenological method and its applications to psychology. Discussing Sartre and the existentialists may present something of a problem in this framework because their works have, for the most part, taken a literary form.

As I see it, the merits of this approach are:
(1.) it will fill a gap in our departmental offerings by establishing some continuity between Philos. 302 and Philos 340

(2.) this course will be relevant to other courses such as Psych 212 (Humanistic Psychology) and Soc. 311 Philosophical Issues in the Social Sciences and Soc. 301 Methodologies and Their Problems

My knowledge of Husserl and Heidigger is weak; consequently most of my research time will be spent reading their works and consulting secondary sources. Also I will need to do some investigation into the applications and procedures of the phenomenological method. Since I team taught Soc. 301 with Jack Fitzgerald, I do have a general idea of the importance of this method.

I beleve that you mentioned the sum of two thousand dollars plus an additional two hundred and fifty dollars for expanding library holdings. This certainly sounds like an adequate sum as well as a powerful incentive.

I will be happy to discuss this proposal with you and I am completely open to suggestions if you think this "mixed" philsophy of science approach is the wrong direction to pursue.

Sincerely,

Lance Factor

Lance Factor

KNOX COLLEGE

GALESBURG, ILLINOIS 61401

February 4, 1974.

Department of Political Science and International Relations

Professor George Melville,
Director of Institutional Research,
Knox College,
Galesburg, Illinois.

Dear George,

I would like to apply for a stipend to support the redesign and preparation of two courses in the political science curriculum. As you know, the administration has decided that replacement of Professor Greenberg is impossible. This requires some considerable shifting of resources within the political science department, placing the burden of teaching the scope and methods courses on me. Fortunately, I have already scheduled a sabbatical for the spring term of this year and thus, when combined with the summer vacation, I will have the time and opportunity to "retool" for these courses.

In order to teach such courses effectively and efficiently, I will have to reacquaint myself with recent innovations in the teaching of scope and quantitative methods in political science. In particular, I will have to renew my acquaintance and facility with basic programming and data manipulation. Both the courses in question: Political Science 220 (Survey of Comparative Government) and 230 (Research Methods and Public Policy Analysis): are recent additions to our curriculum and deserve thorough preparation and quality of design. Enrollment in both courses, since they are major requirments, should be substantial

Accordingly, I am requesting the maximum stipend available under the Carnegie Foundation grant that you administer. I believe that the basic stipend is 2,000 dollars, with an additional 500 dollars available for travel and materials. This request has the endorsement of the Chairman of the department and the Dean of the College. My sabbatical begins with the Spring term of this year and I would hope to begin drawing on the stipend at that time.

All in all, your approval of this grant would enable the political science department to adapt to its personnel reduction with a minimum of negative impact on its instructional integrity.

Sincerely,

Robert F. Seibert
Dept. of Political Science

APPENDIX V

QUESTIONNAIRES ON COURSE DESIGN

1. Questionnaire on Course Design: Faculty
2. Questionnaire on Course Design: Students

Current
Instructor _____ Course _____

Enrollment ____ ____ ____ ____ ____ ____ ____ ____ ____
(1971-72) (1972-73) (1973-74)

Please answer these questions as accurately as you can to reflect your current or last experience in the course.

1. Would you describe this course as "basically a lecture course"? ____ yes ____ no (check one)

2. If your answer to 1. was "yes" check one of the following:

   a. In a typical class period less than five minutes are spent in raising student answers, opinions, or discussions. ____
   b. Usually five to ten minutes are spent in raising student answers, opinions, or discussions. ____
   c. Usually over ten minutes are spent in raising student answers, opinions or discussions. ____

3. If your answer to 1. was "yes" check one of the following:

   a. In a typical class period I spend less than five minutes answering specific questions from students. ____
   b. Usually I spend from five to ten minutes answering specific questions from students. ____
   c. Usually I spend over ten minutes answering specific questions from students. ____

4. If this is basically a lecture course, is it supported by at least one discussion or review session per week focusing on student reactions and questions? Yes ____ No ____ (Check one)

5. If your answer to 1. was "no" check one or more of the following:

   a. The class intersperses discussion sessions with lecture periods. ____
   b. The class is built around student recitation. ____
   c. The class is conducted as a seminar. ____
   d. The class is built around the student's creative efforts. ____
   e. While some lecturing is done, the focus of the course is achieved through discussion or criticism. ____
   f. The class requires individual consultations with students. ____
   g. Special circumstances exist other than the above. ____

If g. is checked, please supply a brief descriptive statement of these circumstances.

_____

_____

6. If your answer to 1. was "no" complete the following statement by circling the appropriate number: For learning in this class to be generally effective the largest number of students that can be accomodated is

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

7. Associated with this course is a lab involving demonstrations or experimentation.

Check one: Yes _____ No _____

8. If your answer to 7. is "yes," is the student's lab performance crucial to his understanding of this course? Yes _____ No _____

9. Does this course involve an "open" lab or studio in which a student can complete a project at night or at odd times of the day? Yes _____ No _____

10. If your answer to 7. is "yes" circle one of the following as an answer to this statement. The largest number of students that can be accomodated in one lab in this course is

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

11. In this class is there any use of audio visual aids other than reproduced materials you hand out? Yes _____ No _____

If "yes" is checked, discuss briefly as to type of aids used and as to the extent of their use. _____

_____

12. In this class a final exam, or the completion of a culminating project, is:

_____ Required _____ Optional _____ Not Given (Check One)

13. Complete the following statement by checking as many of the spaces provided as are appropriate. In this class the final exam is:

_____ closed book
_____ open book
_____ take home
_____ an individualized project
_____ other (please explain below)

_____

_____

_____

14. Prior to the final in this course, how many examinations are scheduled for 45 minutes or more?

0 1 2 3 4 5 6 (circle one)

15. How many short quizzes are given in class?

0 1 2 3 4 5 6 7 8 9 10 (circle one)

16. Prior to the final in the class, how many graded projects or take home exams are assigned? (circle one)

0 1 2 3 4 5 6 7 8

17. The examinations and quizzes in this course take the following forms in approximately these indicated percentages: (Complete only if exams or quizzes are given.)

Type of Response Required	Per Cent of Total Exam Weight
Essay	_____
Oral	_____
Multiple choice, true-false, matching, etc.	_____
Problem solving	_____
Identification or short answer	_____

18. The evaluation of students in this class takes the following forms in approximately these indicated percentages.

Type of Evaluation	Per Cent of Total Evaluation
Performance on exams, projects, assigned problems, etc.	_____
Interpretive skills demonstrated	_____
Artistic skills demonstrated	_____
Demonstration of ability to conceptualize various kinds of problem tasks	_____
Laboratory technique	_____
Studio time	_____
Content of papers required	_____
Organization and exposition of papers required	_____
Other (explain below)	_____

_____

_____

19. Complete the following statement by checking the appropriate space.

In evaluating student performance in this class, student graders are used

_____ Not at all

_____ Occasionally

_____ Substantially

_____ Totally

20. How many written papers are required in this course?

0 1 2 3 4 5 6 7 8 (circle one)

21. The number of double spaced pages in the average paper written for this class is (circle one)

0 1 2 3 4 5 10 15 20 25 30 35 40 45 50

22. How much total new preparation or reconstruction time (as opposed to review time) did you spend on this class?

_____ (Include exam or project construction, lab preparation, study and organization of new material)
total hours

23. The number of books students are asked to buy for this course is

0 1 2 3 4 5 6 7 8 9 10 (circle one)

24. Complete the following statement by checking the appropriate space below:

In this class I hand out duplicated material to students for which they are held accountable

_____ Not at all

_____ Occasionally

_____ Regularly

25. The total number of pages of duplicated material handed out in this course which students are required to study is _____

26. Complete the following statement by checking the appropriate space below:

Students are advised or required to read books and materials placed on reserve in the library, science library, or materials center, CFA.

_____ Not at all

_____ Occasionally

_____ Regularly

27. In this class the use of library materials (check one of the following)

    a. is an integral part of the course work _____

    b. has an important supportive role _____

    c. is up to the individual student _____

28. In this class do you provide your students with a reading list or bibliography? Yes _____ No _____

29. If the answer to 28 is "yes," is the use of specific parts of the reading list or bibliography (check one of the following)

    a. urged _____

    b. required _____

    c. left up to the student _____

30. In this class the use of periodical literature (check one of the following)

    a. is an integral part of the course work _____

    b. has an important supportive role _____

    c. is up to the individual student _____

31. Do you give or arrange for bibliographical instructions to your students in this class on the locating and use of library materials?

    Yes _____ No _____

32. If your answer to 31 is "yes," do you (check one of the following)

    a. Spend a substantial part of one or more classes in this instruction? _____

    b. Schedule instruction for your students with the library staff? _____

    c. Provide a printed set of instructions on the use of the library? _____

    d. Spend a little class time on library instruction? _____

33. Do you consult with the library staff on library or bibliographical aspects of this class? Yes _____ No _____

34. This class meets _____ times a week in _____ minute periods. (please complete)

    List lab time separately _____

35. How many hours per term do you estimate that you meet in your office with students from this class for impromptu consultations? _____

36. What percentage of the students in the class do you estimate come in at least once during the term for an impromptu consultation? _____

37. Do you have a student assistant who meets with students for impromptu consultations?

Yes _____ No _____

38. How frequently do students stop you outside your office to discuss this class? (check one)

_____ Never

_____ Occasionally

_____ Frequently

COMMENTS

Question Number

_____ _____

_____ _____

_____ _____

Current Instructor _____ Course _____

1. Would you describe this course as "basically a lecture course"? yes ____ no ____ (check one)

2. If your answer to 1. was "yes" check one of the following:

   a. In a typical class period less than five minutes are spent in raising student answers, opinions, or discussions. ____
   b. Usually five to ten minutes are spent in raising student answers, opinions, or discussions. ____
   c. Usually over ten minutes are spent in raising student answers, opinions or discussions. ____

3. If your answer to 1. was "yes" check one of the following:

   a. In a typical class period the instructor spends less than five minutes answering specific questions from students. ____
   b. Usually from five to ten minutes are spent answering specific questions from students. ____
   c. Usually over ten minutes are spent answering specific questions from students. ____

4. If this is basically a lecture course, is it supported by at least one discussion or review session per week focusing on student reactions and questions? Yes _____ No _____ (check one)

5. If your answer to 1. was "no" check one or more of the following:

   a. The class intersperses discussion sessions with lecture periods. ____
   b. The class is built around student recitation. ____
   c. The class is conducted as a seminar. ____
   d. The class is built around the student's creative efforts. ____
   e. While some lecturing is done, the focus of the course is achieved through discussion or criticism. ____
   f. The class requires individual consultations with students. ____
   g. Special circumstances exist other than the above. ____

If g. is checked, please supply a brief descriptive statement of these circumstances.

_____

_____

6. If your answer to 1. was "no" complete the following statement by circling the appropriate number: For learning in this class to be generally effective the largest number of students that can be accomodated is

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

7. Associated with this course is a lab involving demonstrations or experimentation.
Check one: Yes _____ No _____

8. If your answer to 7. is "yes," is the student's lab performance crucial to his understanding of this course? Yes _____ No _____

9. Does this course involve an "open" lab or studio in which a student can complete a project at night or at odd times of the day? Yes _____ No _____

10. If your answer to 7. is "yes" circle one of the following as an answer to this statement. The largest number of students that can be accomodated in one lab in this course is

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

11. In this class is there any use of audio visual aids other than reproduced materials you hand out? Yes _____ No _____

If "yes" is checked, discuss briefly as to type of aids used and as to the extent of their use. _____

_____

12. In this class a final exam, or the completion of a culminating project, is:

_____ Required _____ Optional _____ Not Given (Check One)

13. Complete the following statement by checking as many of the spaces provided as are appropriate. In this class the final exam is:

_____ closed book
_____ open book
_____ take home
_____ an individualized project
_____ other (please explain below)

_____

_____

_____

14. Prior to the final in this course, how many examinations are scheduled for 45 minutes or more?

0 1 2 3 4 5 6 (circle one)

15. How many short quizzes are given in class?

0 1 2 3 4 5 6 7 8 9 10 (circle one)

16. Prior to the final in the class, how many graded projects or take home exams are assigned? (circle one)

0 1 2 3 4 5 6 7 ?

17. The examinations and quizzes in this course take the following forms in approximately these indicated percentages: (Complete only if exams or quizzes are given.)

Type of Response Required	Per Cent of Total Exam Weight
Essay	_____
Oral	_____
Multiple choice, true-false, matching, etc.	_____
Problem solving	_____
Identification or short answer	_____

18. The evaluation of students in this class takes the following forms in approximately these indicated percentages.

Type of Evaluation	Per Cent of Total Evaluation
Performance on exams, projects, assigned problems, etc.	_____
Interpretive skills demonstrated	_____
Artistic skills demonstrated	_____
Demonstration of ability to conceptualize various kinds of problem tasks	_____
Laboratory technique	_____
Studio time	_____
Content of papers required	_____
Organization and exposition of papers required	_____
Other (explain below)	_____

_____

_____

19. Complete the following statement by checking the appropriate space.

In evaluating student performance in this class, student graders are used

_____ Not at all

_____ Occasionally

_____ Substantially

_____ Totally

20. How many written papers are required in this course?

0 1 2 3 4 5 6 7 8 (circle one)

21. The number of double spaced pages in the average paper written for this class is (circle one)

0 1 2 3 4 5 10 15 20 25 30 35 40 45 50

22. How much total new preparation or reconstruction time (as opposed to review time) did you spend on this class?

_____ (Include exam or project construction, lab
total hours preparation, study and organization of new material)

23. The number of books students are asked to buy for this course is

0 1 2 3 4 5 6 7 8 9 10 (circle one)

24. Complete the following statement by checking the appropriate space below:

In this class I hand out duplicated material to students for which they are held accountable

_____ Not at all

_____ Occasionally

_____ Regularly

25. The total number of pages of duplicated material handed out in this course which students are required to study is _____

26. Complete the following statement by checking the appropriate space below:

Students are advised or required to read books and materials placed on reserve in the library, science library, or materials center, CFA.

_____ Not at all

_____ Occasionally

_____ Regularly

27. In this class the use of library materials (check one of the following)

a. is an integral part of the course work _____

b. has an important supportive role _____

c. is up to the individual student _____

28. In this class are students provided with a reading list or bibliography? Yes _____ No _____

29. If the answer to 28 is "yes," is the use of specific parts of the reading list or bibliography (check one of the following)

a. urged _____

b. required _____

c. left up to the student _____

30. In this class the use of periodical literature (check one of the following)

a. is an integral part of the course work _____

b. has an important supportive role _____

c. is up to the individual student _____

31. In this class are arrangements made for bibliographical instructions on the locating and use of library materials? (check one) Yes _____ No _____

32. If your answer to 31 is "yes," does the instructor (check one of the following)

a. Spend a substantial part of one or more classes in this instruction? _____

b. Schedule instruction for students with the library staff? _____

c. Provide a printed set of instructions on the use of the library? _____

d. Spend a little class time on library instruction? _____

33. This class meets ____ times a week in ____ minute periods. (please complete)
List lab time separately _____

34. Do you find the instructor readily available for consultation? _____ yes _____ no
(check one)

COMMENTS

Question Number

END

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